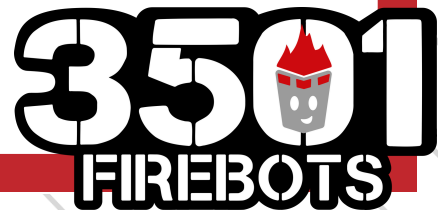
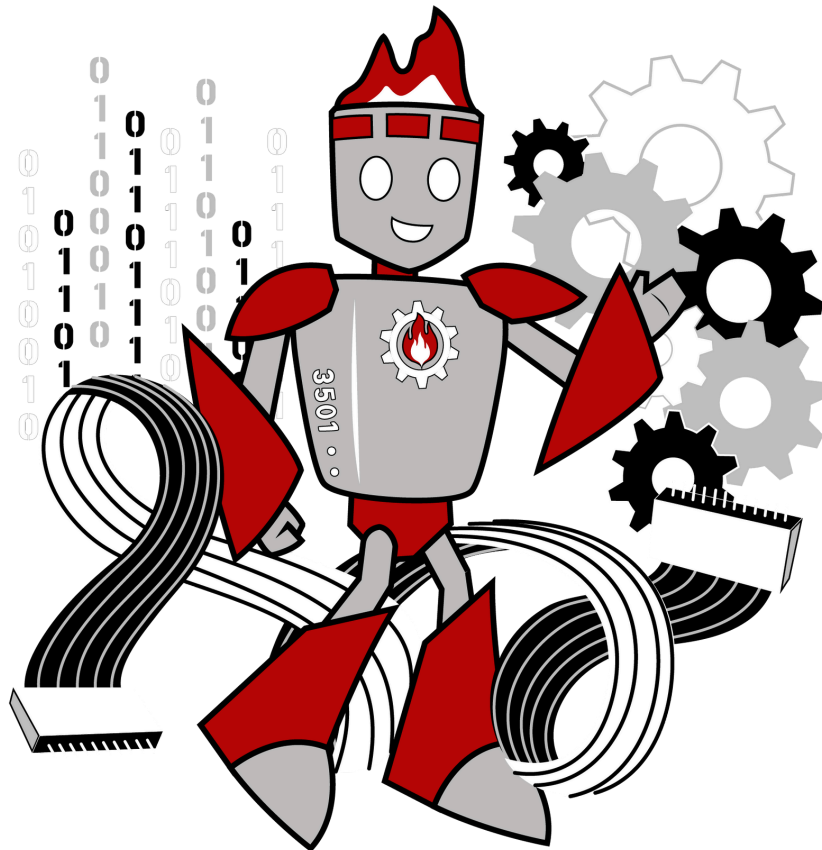


Fremont High Robotics  
Sunnyvale, CA  
FRC Team #3501

2024 - 2025

# Team 3501 Firebots Sponsorship Packet



# Team 3501 At a Glance

## Contact Information

**Website:**

www.fremontrobotics.com

**Email:**

fhsrobotics3501@gmail.com

**Facebook:**

@team3501firebots

**Address:**

575 W Fremont Ave,  
Sunnyvale, CA 94087

**Instagram:**

@fremonthighrobotics

**YouTube:**

@fremonthighrobotics

## Statistics

**40**

active FRC  
members

**10**

FLL teams  
founded

**36**

outreach events  
last year

**96%**

of Firebots pursue  
a STEAM major.

**3**

award-winning  
FTC teams

**33%**

of FHS is  
socioeconomically  
disadvantaged

**\$0**

participation  
fee

# About *FIRST*

---

FIRST (For Inspiration and Recognition of Science and Technology) is a non-profit organization dedicated to introducing students to prospective careers in science and technology. FIRST's mission is "to show students of every age that science, technology, and problem-solving are not only fun and rewarding but are proven paths to successful careers and a bright future for us all." Founded in 1990, the organization has brought millions of students into the realm of robotics over the past three decades.

FIRST runs multiple programs, including:

- FIRST Robotics Competition (FRC) for 9th-12th graders
- FIRST Tech Challenge (FTC) for 7th-12th graders
- FIRST Lego League Challenge (FLL-C) for 4th-8th graders
- FIRST Lego League Explorer (FLL-E) for 1st-4th graders

## **FIRST Robotics Competition (FRC)**

The FIRST Robotics Competition (FRC) is an annual competition in which high school teams compete to design, build, program, and test robots from scratch that perform set tasks and score game pieces in a 3 versus 3 alliance format. FRC teams are not only expected to build excellent robots but also to raise their own funds and help introduce their local community and fellow students to the world of robotics as well. Additionally, FRC promotes art as part of its mission to promote STEAM, by having students engage in graphic design, animation, photography, videography, and editing.

## Team History

Fremont High Robotics started in 2010 as a team of 10 people at Fremont High School in Sunnyvale. The team began participating in FIRST Robotics Competitions (FRC) as Team 3501 "the Firebots" in 2011 and has attended at least 2 regional competitions yearly. In 2019 and 2020, Fremont High Robotics expanded into the FIRST Tech Challenge (FTC), founding 3 separate teams to allow more students an opportunity to learn about robotics in a smaller team setting. Today, each FTC team has about 15 members each and our FRC team has 42 members working to create a thriving future for STEAM education.

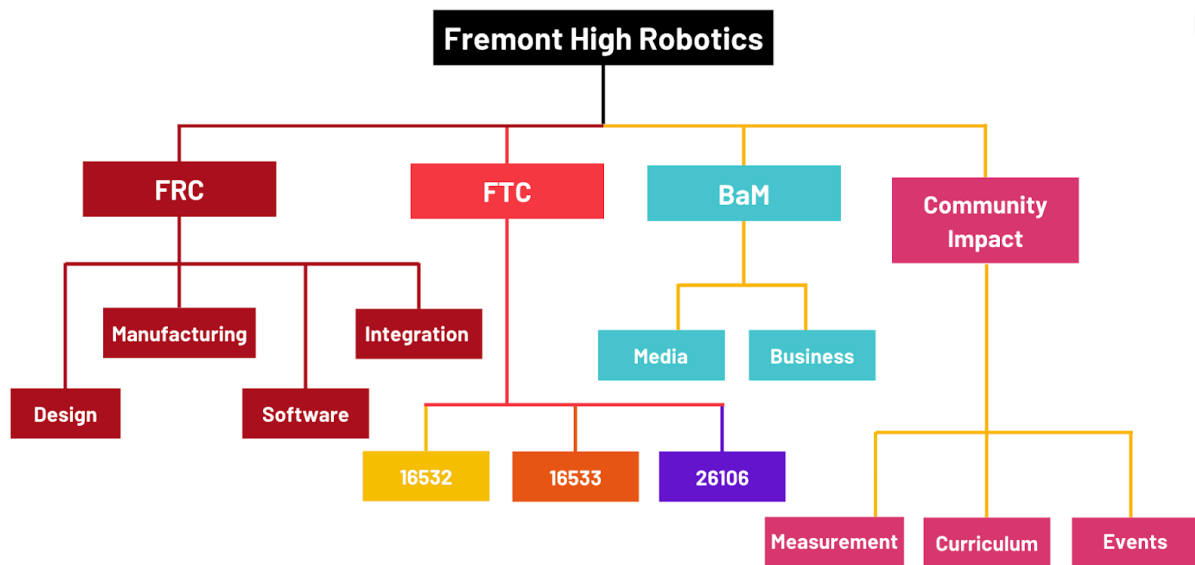
## Mission Statement

Our mission is to create a safe and supportive environment for students to develop their interest in STEAM through hands-on experiences and direct guidance from other students and mentors. By enabling students of all backgrounds to participate in robotics, we proudly stand by the idea that success in engineering, business, and positive collaboration can be achieved by anyone with an appreciation for STEAM.

## COVID-19 Impact

This year, the COVID-19 pandemic subsided but still created logistical problems during the season. All three FTC teams and the FRC team have to continue wearing masks and avoid contact with each other while working together as a team. Through a combination of new and returning members, teams are able to explore and grow their engineering skills with the support of their skilled mentors. Many of the techniques learned during the 2020 season carried over, from working remotely on CAD and software to check-ins during the start of every meeting. These techniques combined with the skills that our teams learned pre-pandemic taught us a new way to do robotics.

# Organization Structure



Fremont High Robotics is organized into technical and non-technical teams. The four individual competition teams (3501 Firebots, 16532 Sparkbots, 16533 Infernrobots, and 26106 Emberbots) each have a Design, Manufacturing, and Software subteams. The Firebots also have an integration subteam. The non-technical Business and Marketing team consists of three divisions (Media, Events, and Business) working organization-wide with members from every competition team.

## About the Subteams

### Community Impact

Managed by FRC Team 3501, and supporting efforts across the organization, the Community Impact team pursues both large-scale, long-term community outreach programs, along with annual community events and programs. Efforts are focused on providing access to youth in underserved communities. Firebots across subteams apply our engineering principles to build scalable, affordable, and easy-to-teach STEAM lessons with technical and non-technical members: through Torchbearing Tutors and Kindling Kits (read more in the Outreach Section on page 11).

### Business and Marketing

Managed by FRC team 3501 and supporting efforts across the organization, the Business and Marketing subteam raises funds through grants, maintains sponsor relations, maintains team branding, and manages the team's digital assets and social media presence. In Business & Marketing, students learn graphic design, professional and informative writing, consistent documentation, and public relations.

# Organization Structure

---

## **Mechanical Design**

The Mechanical Design subteam is responsible for designing the robot and supervising production in the Mechanical Manufacturing subteam during the build season. Students learn to use CAD (Computer-Aided Design) to create an accurate 3D model of the robot.

## **Mechanical Manufacturing**

The Mechanical Manufacturing subteam produces parts for the robot, assembles the working base of the robot, and builds the electrical board with electromechanical systems before it is passed onto the Software subteam. Students learn to use power tools such as drills, band saws, chop saws, pneumatic-powered, and a CNC router; how to wire and solder electrical components; and pneumatics.

## **Software**

The Software subteam drafts and writes code for the robot and delivers reliable controls for driver testing and competition. Students learn about clean coding practices, autonomous driving, computer vision, and robot mechanism controls.

## **Integration**

The Integration subteam ensures team-wide unity. This includes making sure that every subteam is given a voice on the mechanisms of the robot, and that information about mechanisms is accessible at all times.



# Competition Achievements

---

## FIRST Robotics Competition (FRC)

- **2024 Utah Regional** - Semifinalists
- **2024 Utah Regional** - Woodie Flowers Award Finalist (Sohini Stone)
- **2024 Utah Regional** - Judges' Award
- **2024 Central Valley Regional** - Semifinalists
- **2024 Central Valley Regional** - Gracious Professionalism Award
- **2023 Sacramento Regional** - Semifinalists [8th seed alliance]
- **2023 Sacramento Regional** - Team Sustainability Award
- **2023 Orange County Regional** - Woodie Flowers Award Finalist (Sean Stone)
- **2023 Orange County Regional** - Team Sustainability Award
- **2022 Hueneme Port Regional** - Quarterfinalists
- **2022 Hueneme Port Regional** - Entrepreneurship Award
- **2022 Monterey Bay Regional** - Quarterfinalists
- **2022 Monterey Bay Regional** - Entrepreneurship Award
- **2021 Game Design Challenge** - Designer's Award
- **2018 World Championship** - Competitor
- **2018 Arizona North Regional** - Quarterfinalist
- **2016 Central Valley Regional** - Spirit Award
- **2015 World Championship** - Competitor
- **2015 Ventura Regional** - Quarterfinalist
  - Industrial Safety Award Finalist
- **2015 Central Valley Regional** - Industrial Safety Award Finalist
- **2014 Central Valley Regional** - Semifinalist
  - Spirit Award
- **2013 Central Valley Regional** - Finalist
  - No. 1 Seed
  - Judges' Award
- **2012 Central Valley Regional** - Semifinalist
- **2011 Silicon Valley Regional** - Inventor Award Finalist
  - Highest Rookie Seed

# Competition Achievements

---

## FIRST Tech Challenge (FTC)

- **2023 FTC Santa Clara Qualifying Tournament #2** - Motivate Award (Team 16532)
- **2023 FTC Santa Clara Qualifying Tournament #2** - Finalist Alliance - Captain (Team 16532)
- **2023 FTC San Jose Qualifying Tournament #2** - Design Award 2nd Place (Team 16532)
- **2023 FTC San Jose Qualifying Tournament #2** - Winning Alliance (Team 16532)
- **2023 FTC San Jose Qualifying Tournament #1** - Finalist Alliance (Team 16533)
- **2022 FTC Norcal Regional Championships** - 4th Alliance Captain [#5 seed after qualifiers] (Team 16533)
- **2022 FTC Norcal Regional Championships** - 4th Alliance second pick [#10 seed after qualifiers] (Team 16532)
- **2022 FTC Norcal Regional Championships** - 2nd runner up, Promote Award (Team 16533)
- **2021 FTC San Jose Qualifying Tournament #1** - Winning Alliance (Team 16532)
- **2021 FTC San Jose Qualifying Tournament #1** - #2 Seed (Team 16532)
- **2021 FTC San Jose Qualifying Tournament #1** - Control Award (Team 16532)
- **2021 FTC Saratoga Qualifying Tournament #1** - Finalist Alliance (Team 16532)
- **2021 FTC Saratoga Qualifying Tournament #1** - Innovate Award (Team 16532)
- **2021 FTC Google Qualifying Tournament #1** - Winning Alliance (Team 16533)
- **2021 FTC Google Qualifying Tournament #1** - Inspire Award Runner-Up (Team 16533)
- **2021 FTC Google Qualifying Tournament #1** - Design Award (Team 16533)
- **2021 Mountain View Qualifier** - Finalist Alliance (Team 16533)
- **2021 Mountain View Qualifier** - Design Award (Team 16533)
- **2021 Mountain View Qualifier** - Inspire Award 3rd Place (Team 16533)
- **2021 Santa Clara Qualifier** - Winning Alliance (Team 16532)
- **2021 Santa Clara Qualifier** - Think Award (Team 16532)
- **2021 Santa Clara Qualifier** - Control Award 2nd Place (Team 16532)
- **2020 Remote Qualifier** - Think Award 2nd Place (Team 16533)
- **2020 Burlingame Qualifier** - Winning Alliance (Team 16532)
- **2020 Burlingame Qualifier** - Think Award (Team 16532)
- **2020 Burlingame Qualifier** - Think Award 2nd Place (Team 18223)



# Outreach

## FIRST Lego League (FLL)

Since 2015, the Firebots founded 10 FIRST Lego League (FLL) Challenge teams with middle school students from the Sunnyvale area and mentored over 12 FLL teams. FLL alumni Firebots also ran an annual week-long summer boot camp to overview FLL before the season began. By 2016, the Firebots extended to starting and coaching FIRST Lego League Explore teams with elementary school students. Many students graduate to continue onto FTC and FRC at Fremont High Robotics.



In 2020, due to the COVID-19 pandemic, we were not able to host our boot camp. Instead, 8 Firebots FLL alumni created the FLL Support team to develop a Youtube video series that gave students a crash course training on the various aspects of FLL: general information, robot design & strategy, EV3 programming, and project.

# Outreach

## STEM Scouts

In 2020, we began our STEM Scouts program with an online Zoom outreach event with a Boy Scouts of America and a Girl Scouts troop in Sunnyvale. The scouts ranged from elementary school to soon-to-be high school students. Since then, we've hosted events with 6 scout troops, a total of over 200 scouts, and have returned for a 2nd year with Troops 404 and 406. At each event, we give an informative presentation about FIRST robotics and how they, as students, can participate in FLL, FTC, and even FRC

when they start high school. After we always provide a hands-on activity to open them up to the creative processes found in robotics, whether it be a basic CAD follow-along or a group brainstorm on a whiteboard to present.



# Outreach

## City of Sunnyvale

We are deeply connected to the Sunnyvale community, partnering with them on various occasions to demonstrate the power of robotics. For the past several years, we've held a RoboFun event at the Sunnyvale Public Library, where we demonstrate our FRC robot to the general public. Knowing that many families visit the library, we provide guests with many resources to help parents encourage their young students to get into robotics. We've also participated in the City of Sunnyvale's organized events since 2018 (Sunnyvale Downtown Business Expo, Sunnyvale Heritage Museum Anniversary Celebration, the Sunnyvale Rotary Club). The robotics team has demonstrated their robot and held presentations about the team for people of all ages from Sunnyvale.



## Hosting Competitions

The Firebots have also hosted and coordinated a number of FIRST events at our home base, Fremont High School. We co-hosted CalGames—an offseason competition for FRC teams in California—in October 2013 and October 2016 in partnership with the Western Region Robotics Forum. We also hosted two FLL Qualifiers in November of 2018 and November of 2019. Through these events, we've been able to connect with other FIRST teams and even fundraise by selling food and drinks.

# Outreach

## Torchbearing Tutors

Torchbearing Tutors is an afterschool program designed to inspire the next generation of innovative leaders by introducing students to STEAM through hands-on lessons and activities. This program, led by student volunteers, bridges gaps in accessibility by providing elementary school students with opportunities to explore science, technology, engineering, and math, with the crucial addition of "Art" to foster creativity and empathy in problem-solving. By incorporating art, we align with the philosophy that true innovation arises from combining scientific and artistic thinking. Each month, volunteers design and teach our team-developed curriculum, ensuring that students are equipped with engaging and enriching STEAM projects.

## Kindling Kits

Kindling Kits offer a unique, kit-based STEAM experience designed and packaged by members of the FHS Robotics community. These kits, along with accompanying instructional videos, empower students to explore STEAM concepts independently at their own pace. By integrating art into these projects, we aim to enhance creativity alongside technical skills, enabling students to develop innovative solutions with real-world applications. This initiative extends our mission beyond the classroom, ensuring that STEAM learning is accessible and impactful for all.



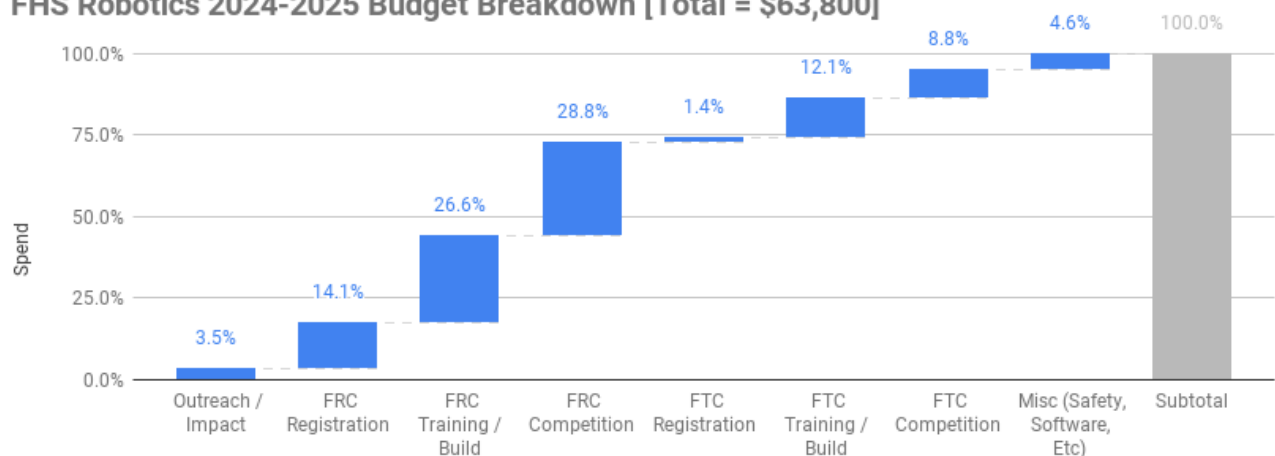
FHS Robotics and the Firebots have gained funds through:

- Corporate grants
- Volunteer corporate matching programs
- Private donations

To sustain the robotics program, we currently rely on 12 sponsors plus community and family donations, with our estimated 2024-2025 budget of \$63,800. In order to accurately estimate our yearly budget, we keep track of the categories of expenditures each year and modify it for the following year's budget, reflecting on the long-term consequences of over-spending. Each subteam has a strict maximum for spending and is thoroughly considered based on the previous years' experiences. Finances must always be consulted and approved by the mentors and student leadership with the Business and Marketing subteam helping to track spending.

## FHS Robotics Average Annual Budget: \$63,800

FHS Robotics 2024-2025 Budget Breakdown [Total = \$63,800]



# Sponsorships

---

Fremont High Robotics is a 501(c)3 non-profit organization and relies on community support through corporate grants, fundraisers, and private donations to cover various expenses, including tools and tool upgrades, safety equipment, marketing supplies, robot materials, and much more. The generosity of our sponsors is what allows us to keep the individual costs low and enable students in our diverse community of all socioeconomic backgrounds to learn and participate in hands-on STEAM experiences.

## **We accept support in the form of:**

- Monetary donations
- Mentor support or paid volunteering hours for employees
- Facilities such as machine shops
- Equipment or software, especially laptops
- Discounts on goods and/or services

## **We sustain our partnerships with:**


- Team updates through newsletters and recap videos
- Sponsor invitations to our workspace, competitions, and outreach events
- Visits to sponsors' facilities and events
- Sponsor recognition through social media

To donate, email us at [fhsrobotics3501@gmail.com](mailto:fhsrobotics3501@gmail.com).

**Tax I.D. #94-2907804**

# Sponsorships

## Sponsor Benefits

|  | <b>Iron</b><br>\$250 - \$599 | <b>Bronze</b><br>\$600 - \$999 | <b>Silver</b><br>\$1,000 - \$1,999 | <b>Gold</b><br>\$2,000 - \$4,999 | <b>Platinum</b><br>\$5,000 - \$9,999 | <b>Diamond</b><br>\$10,000+ |
|---|------------------------------|--------------------------------|------------------------------------|----------------------------------|--------------------------------------|-----------------------------|
| Name/Logo on Website  | X                            | X                              | X                                  | X                                | X                                    | X                           |
| Social Media Thank You (Group)  |                              | X                              | X                                  |                                  |                                      |                             |
| Social Media Thank You (Individual)   |                              |                                |                                    | X                                | X                                    | X                           |
| Name on T-Shirt   |                              |                                | X                                  | X                                | X                                    | X                           |
| 2 Team T-Shirts   |                              |                                |                                    | X                                | X                                    | X                           |
| Name/Logo on Robot  |                              |                                |                                    | X                                | X                                    | X                           |
| Mention on Home Page  |                              |                                |                                    |                                  | X                                    | X                           |
| Register as Minor Sponsor with FIRST  |                              |                                |                                    |                                  | X                                    | X                           |
| Register as Major Sponsor with FIRST  |                              |                                |                                    |                                  |                                      | X                           |