

At Team 599, the Robodox, we build “more than robots”; we build future STEM leaders worldwide. Through efforts ranging from supporting FIRST teams in our community to hosting engineering panels around the world, every member unites under the same dream: to inspire people of all backgrounds to become efficient problem solvers who work together to engineer a brighter future.

Inside Our Team

599’s strong student leadership turns setbacks into success. In 2022 our team fell to its lowest point, with many of our experienced students and mentors leaving during the pandemic without having passed on their knowledge to others. Despite our shortcomings, our team had its strongest season, winning our first official event, the Los Angeles Regional. To continue this success, our team transformed our leadership structure, leading to us placing as finalists in Beach Blitz and winning the Team Grant Award. 599 leaders focused on filling our team with members that showed initiative and a passion for STEM, with the team doubling in size to 45 members total. We strengthened the link between our administrative and technical divisions, encouraging every member to actively participate in both divisions. This allowed students to explore their strengths instead of locking themselves into one division. As a result, 40% of our students hold leadership positions, allowing the wide diversity of our strengths to shine. To facilitate efficient progress tracking and simplify our tasks, we utilize Monday.com, a project management system that offers asynchronous tracking and automations.

599 introduces rookies to the structure and practices of our team through Rookie Integration. Each season, subteam leads document all the technical and business skills they have learned throughout their time on our team. Leaders use this documentation to introduce rookies to each administrative and technical subdivisions and to help them determine where their best fit on our team might be. By adopting these practices, members learn organizational and leadership skills that they can pass on to affiliates and other students.

Inside Our School

Granada Hills Charter High School is a Title I school with 48.8% of our students on free and reduced lunch. The school hosts a large population, with approximately 5,000 students and more than 90 clubs and organizations.

599 worked with GHC administration to establish a FLL team on GHC’s TK-8 campus that we mentor through weekly meetings. Every week, our team demonstrates our commitment to promoting STEM education by dedicating 3 members to both of our FLL teams, providing personalized instruction on fundamental robotics and facilitating their practical application in the context of FLL challenges. Team participation has inspired Robodox students to found and lead around 10 STEM organizations in our school, reaching over 350 students yearly. From their experience on our team, students apply processes similar to Rookie Integration, PR skills, or use their engineering knowledge for systems like hydroponics, broadening team outreach.

599 provides industry-relevant skills through our internship and affiliate programs, teaching 15 students in our inaugural class this year. We founded an internship program that trains students in our school's business program (DECA) to use tools like the Adobe suite and high-level photography equipment. Through this year-round training, 599 leaders teach marketing, budgeting, networking, and public relations skills that interns use to lead their own business organizations. This program is led by Robodox students with limited mentor oversight to introduce practical applications of classroom skills in a low-pressure environment and provide models for peer leadership. Our affiliate program gives students technical training and exposure to STEM fields that they can use to help our team. We teach them about our team structure and our build space, and educate them on the basic skills required for our technical subdivisions. Through these programs, 599 upskills students at our school, giving them an opportunity to learn and apply practical technical and administrative skills while ensuring team sustainability, with every intern expressing interest in joining us.

In FRC

Within FRC, our team aims to enable other student leaders and encourage FIRST's value of gracious professionalism. 599 is committed to helping every team perform at their best. For the last 20 years, a group of 599 students have dedicated their entire competition time to running our signature "Robot First Aid" stations. We have run these stations at all of our regionals in the last 3 years and 86% of our competitions overall. Wearing our signature lab coats, students solve problems for teams in need of parts or assistance, regularly receiving over 20 orders every competition. 599 students created "Dox Spot" after identifying a need for a quiet space for programmers to focus away from the high-stress competition environment, and we have brought it to every one of our regionals in the last 3 years. We aid teams using C++ ourselves and connect with students on other teams to provide support for teams using other programming languages, aiding 3-5 teams every competition that would otherwise lack programming support. 599 students also offer offline installations of critical FRC software like REV and CTRE libraries and NI Game Tools.

To help create personal connections and encourage coopertition, 599 hosts a Discord Server where over 70 FRC teams across the world share technical advice. This shared communication platform offers the chance to create real-life connections between students in our region, helping facilitate inter-team social events. Recently, 599 ran a social with FRC teams 7157 and 1197 at a local museum – both teams we connected with through our server. To encourage design collaboration, we publicize our build season progress through the Open Alliance, joining a group of 97 teams to post weekly build documentation and share internal team resources. As a result of our efforts to uphold the values of Gracious Professionalism year-round, 599 has 16 Gracious Professionalism awards, the most of any team in North America.

In Our Local and Global Communities

599 assists local organizations using our engineering knowledge and organizational skills. Last year, students on our team noticed that storm drains in our community were frequently clogged by pine needles, flooding our streets. By contacting our city, we learned that the brush design on the current street cleaning machines had trouble picking up pine needles. We created a dual-brush design to solve this issue, and partnered with Granada Hills Neighborhood Council to make it a reality. Similarly, we recently conducted drives for clothing, candy, and food, rallying over 4600 Granada students to help community organizations with their needs.

599 gives back our STEM experience to our community through various robot demonstrations at local events. We attend the Wings Over Camarillo Air Show every year, demonstrating our robot and our build process to families interested in the air show. We attended the Orange County Maker Faire, demonstrating two of our robots last year. Through these demonstrations, 599 inspires the next generation of STEM innovators by giving them exciting hands-on STEM experience and sharing our knowledge.

599 gives talks featuring engineering experts to underserved STEM communities through our DoxTalks program. In 2022, we hosted a DoxTalks at Good Shepherd Cathedral School in the Philippines featuring our team's technical leaders. During this panel, we answered various questions about STEM careers from roughly 600 middle and high-schoolers. Every attendee surveyed indicated that the panel helped them broaden their perspective on future careers. They also testified that our responses gave them guidance, saying it "broadened my outlook on my future career" and that the "presentation got me hooked". In another panel, 599 partnered with female engineers from Northrop Grumman to talk about their struggles in the male-dominated field of engineering. This discussion, moderated by our team's female leaders and open to the general public, inspired young women and gave them useful advice for their future careers. 599 creates and celebrates more equality and diversity in the STEM field.

By restructuring our team to turn failure into opportunity, Team 599 builds the leaders of the future. By leveraging the large population of our school and its resources, 599 students spread their experience to our larger community. By modeling gracious professionalism inside and outside of competitions, 599 turns FRC into more than robots. By providing innovative solutions to problems and sharing our knowledge with all, 599 creates a better world one step at a time.

By utilizing the resources and unique opportunities of our team, school, and community, Team 599, the Robodox, creates strong engineers for today, role models for the next generation, and leaders for the future. Together, we Engineer a Brighter Future for our world.