

## Chairman's Award - Team 399

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2022 - Team 399

**Team Number**

399

**Team Nickname**

Eagle Robotics

**Team Location**

Lancaster, California - USA

**Describe the impact of the *FIRST* program on team participants within the last 3 years. This can include but is not limited to percentages of those graduating high school, attending college, in STEM careers, and in *FIRST* programs as mentors/sponsors.**

FIRST has continuously impacted Team 399's members. Spending 4 engaging years on the team, students gain confidence in themselves, leading to 100% of our students graduating & 90% advancing to higher education in STEM. We've built a close community, allowing students to obtain internships with Aerospace companies such as Northrop Grumman, Lockheed Martin, & NASA. Our alumni return to our valley's CORE teams as mentors, sharing their knowledge with younger generations.

**Describe your community along with how your team addresses its unique opportunities and circumstances.**

Our Aerospace Valley is unique; being surrounded by established aerospace corporations such as NASA & Northrop Grumman has allowed us to indulge in STEM culture. We gain their support via robot expos, allowing us to advance STEM pathways & support, generating new FIRST teams. Our region's schools foster STEM & PLTW programs, which we work with to establish CORE curricula for all students. Distinctive community events such as Girls in STEM offer unique ways to re-imagine our area's culture.

**Describe the team's methods, with emphasis on the past 3 years, for spreading the *FIRST* message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?**

Robotics Roadshow allows for community wide interactions with FIRST through our scalable field & driving lessons. Roadshow's success can be seen through its involvement in our community, reaching multiple events including our local AV Fair. Eaglets is an event hosted by Team 399, allowing a creative way for younger generations to learn about aspects of build season. Eaglets' success & effectiveness can be seen through the development of young FIRST leaders & innovators.

**Please provide specific examples of how your team members act as role models within the *FIRST* community with emphasis on the past 3 years.**

As the longest-standing FRC team in our valley, we work to guide our neighboring teams through their endeavors especially during build season. We also work to advocate for FRC events in our valley working closely with community leaders. AV Regional is an event in particular which we've supported, leading us to be ambassadors. We host events such as Robot Rollout, inviting our community to view & celebrate the unveiling of our robot. Through this we provide a model for other FIRST teams.

**Describe your team's initiatives to Assist, Mentor, and/or Start other *FIRST* teams with emphasis on activities within the past 3 years.**

Being the first FRC team in our region we've assisted & mentored many teams. In the last 3 years we've focused our efforts on creating *FIRST* teams, providing more district-level leadership & funding. We've also provided support for teachers & mentors through the AV CORE (Antelope Valley Coalition of Robotics Educators), building a structure for prosperous FRC teams. Our new initiative, PurplePrint, a basic blueprint of our own team, provides FRC teams everywhere a basis to get started.

**Beyond starting teams, what initiatives have you done to help inspire young people to be science and technology leaders and innovators? What results have you seen from your efforts in the past 3 years?**

Team 399 inspires adolescents to be innovators in science & technology through innovative tactics. Through social media our team has reimagined ways to captivate the attention of younger audiences. We recently branched into Tik Tok to achieve this goal. HDLT (High Desert Lego Tournament) is another event we use in hopes to inspire junior high students to pursue higher levels of *FIRST*. Robot demos allow us to visit schools who partake in the STEM curricula furthering students' interests.

**Describe the partnerships you've created with other organizations (teams, sponsors, educational institutions, philanthropic entities, etc.) and what you have accomplished together with emphasis on the past 3 years**

In the past 3 years, Team 399 has continued working in close relations with multiple organizations to spread *FIRST*'s mission. Working with NASA we have been able to develop an industry foundation, giving us tools to help others prosper in STEM. Partnering with the Palmdale School District Teacher Tech Facilitators, we've been able to promote new CORE initiatives including middle & elementary schools. Recently, we have developed a new partnership with Kaliber 9 helping us reimagine safety.

**Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, *FIRST*, and your communities.**

We recognize the importance of promoting equity, diversity, & inclusion. Our team has assisted STEM for girls, a local event inspiring young women to pursue careers dominated by men. Diversity is seen on our team with 52% of members being of Latinx descent. We exemplify equity working with Title I schools in our area to promote equal opportunities for all in STEAM. Advocating the Childhood Cancer Support Project through our team's website has helped garner fiscal support from 4% to 8%.

**Explain how you ensure your team and the initiatives you have created will continue to run effectively for the foreseeable future**

Developing umbrella initiatives we have kept core values at the forefront. Our Robotics Roadshow initiative houses the basic concepts of robot demos at schools allowing us to bring STEAM to our community. Our Happy Healthy Robotics umbrella covers our basics for tool workshops & concepts such as the N.E.S.T. (Necessary Event Supply Tote), allowing effective execution in following years. Our leadership team upholds longevity, transmitting their knowledge to others, molding future leaders.

**Describe your team's innovative strategies to recruit, retain, and engage your sponsors within the past 3 years**

Team 399 has unique approaches to recognize our sponsors while recruiting new corporations. We maintain established sponsorships with AndyMark and others, and attract new sponsors such as Kaliber 9 and Sendcutsend. Advancing our partnership with Kaliber 9, we worked together to create their company's branding. We are also a NASA House Team, sending monthly newsletters to display our progress. During our robot unveiling we invite sponsors to celebrate our build season endeavors.

**Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.**

We've developed multiple ways to engage students outside of our team, losing sight of ways to keep members of our own team engaged. We found that students started off the year eager, but participation waned as tasks grew more distinct. In order to combat this problem, our team has looked to teach the team that we are more than just a robot. Creating set-building tasks for events such as Robot Rollout & re-implementing training programs have allowed us to combat this problem.

**Describe your team's goals to fulfill the mission of *FIRST* and the progress you have made towards those goals.**

Team 399 fulfills *FIRST*'s mission, pushing for innovation in STEAM. Advocating for the "A" in STEAM, we look to inspire innovators to support outside of the box thinking. We also encourage students to become leaders, granting opportunities to step up in our community. We foster communication skills through the industry platform Slack. Slack encourages remote communication, allowing us to plan outside of shop hours. General Meetings allow for students to communicate updates on their projects.

**Briefly describe other matters of interest to the *FIRST* Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique or particularly noteworthy.**

15 yrs ago our team set out on a mission to unite the FIRST community, leading us to RoboProm. RoboProm, hosted at both championships, gave dedicated FRC students a chance to experience prom. Changing with time we're hoping to continue RoboProm virtually! Our intended goal for Virtual RoboProm is to have a virtual DJ & interactions between teams. Virtual RoboProm will also create a new form of inclusivity allowing all teams to celebrate seasonal endeavors without having to make it to Champs.

## Essay

### Boarding

For over 2 decades, Team 399 has worked on multiple missions throughout the Aerospace Valley; every year we are working to advance the world of innovation, re-imagining what defines impossible. We strive to uphold FIRST's Core Values in all our endeavors. From founding our AV CORE Alliance to spreading STEAM to generations across the board, Team 399 has developed its foundations & is ready for takeoff!

### Takeoff

Taking off has required a lot of preparation- from starting our team in 1999 to developing new initiatives to maintain FIRST's Core Values at the forefront, sustaining our large team is no small feat. Over time, Team 399 has developed 4 subteams that are integral to our team's success: Manufacturing, Programming, Multimedia, & Public Relations. Our team members are recognized as enthusiastic individuals, wearing our distinguishable team colors & boosting our team spirit. Enthusiasm carries beyond the team, with several alumni returning to help train newcomers. Our team strives to inspire new generations to embrace our motto: "dream more, learn more, & become more."

### CORE

Team 399 works to create innovative culture by pursuing & engaging in STEAM curricula. Over the past few years, we have created relationships with 4 FRC teams in our valley through CORE, the Coalition of Robotics Educators. To encourage STEAM curricula, our mission became to work with nearby districts to help us promote & advocate for STEAM. We pitched the idea to the AV Union High School District, proposing that if districts could help fund, encourage, & create workspaces, Team 399 could establish more FRC teams within the district & secure more participation in STEAM throughout the valley. Since its inception, CORE has gained over 50,000 dollars in support from our efforts with the school district, supplying teams with subsidized registration, travel & equipment. We remain in communication with these teams to aid them in future success within FIRST. As of now, CORE has allowed us to establish an alliance & community with other FRC teams in the valley, as well as allowing us to instill STEAM in classrooms & spread the foundations of FIRST.

Furthering CORE's mission, Team 399 expanded our efforts, creating curricula to assist younger students in advancing their critical thinking & collaborative skills. This curriculum currently includes 2 different STEAM lesson plans catering to different grade levels. "Bottle Rockets" is a lesson plan for students in grades 3-5, where teams are to build a 'rocket' out of a soda bottle. This lesson plan ensures that students strategically design, build, & test collaboratively. "Eggstronauts" is a lesson plan where students in grades 4-8 are tasked to design, build, & test a 'spacecraft' that will safely deliver an egg to the ground. Team 399 has developed an average class size of 30 kits per class to enable classrooms to experiment with these lessons. Looking forward, we are consistently creating more lesson plans for all grade levels. "Balloon Cars," our most ambitious kit, will allow students, grades 4-8, to build, paint, & test wooden cars. The wooden cars are all to be built out of pieces created by Team 399, in-house. These lessons encourage students to pursue STEAM & FIRST programs, preparing them with lifelong skills for their fruitful endeavors in our area. Creating replicable framework for younger audiences creates a STEAM pathway within schools in our area, giving every student access to an enriching STEAM education at all grade levels.

### Turbulence

With numerous veteran members having graduated within the past several years, we had to adapt to a team made up of primarily new members. Mentors & veterans have kept up with this challenge by using the sustained tools & initiatives previous members left us with. Using our technological resources we were able to access old subteam trainings & expand upon them. We have created new ways of promoting team bonding & excellence. Through newly implemented school-based robotics events such as Winter Wonderland & our hosting of the AV School Board Association Summit, we were able to encourage team bonding leading to excellence. When a new problem arises, we always rise to the challenge & create innovative techniques & solutions. The discovery of new skills & lenses has led us to improve our team, assuring its longevity.

### Soaring to New Heights

As a team, we have always looked to fulfill FIRST's mission in every way possible; all the while, we continue to bond & have fun while doing so. Over the years, our team has shifted gears from STEM to STEAM. STEAM has allowed us to prosper both in technicality & creativity. Team 399 has made it our mission to showcase how FIRST is more than robots. During our off-seasons, we annually design a holiday float incorporating art & engineering to create memorable displays of our team's values. Showcasing our float at the Lancaster Chamber of Commerce Holiday Parade, we won the 1st place Theme Award & the Sweepstakes Award. During the holiday season, we also create an immersive holiday walk-through experience called Winter Wonderland to bring our community together. As a result, our team was featured in our local newspaper, the AV Press, discussing the natural cohesion between arts & engineering. Generating good press like this always boosts FIRST's profile, & we are happy to help advance this mission.

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However, advocating for the "A" in STEAM does not stop there. During our season, we work to create stage props for our robot unveiling event, Robot Rollout. Robot Rollout is a media event we created to celebrate our team's build season efforts while engaging with our community & sponsors. We build every field element to fit FRC specs, but always add a dash of Team 399. Building field elements & our robot with creativity allows us to bring forward a greater emphasis on art during build season. These artful touches displayed at Robot Rollout leave a lasting impression on the press, public, & even elected officials. We have been repeatedly featured in local media, & recognized by both city officials & congressional representatives.

### Impact

Engaging with the community has evidently become an important part of Team 399's mission. Creating all-inclusive events has become our primary means of reciprocating our community's support; laying the foundation for continued success. Through robot demos, we invite younger audiences to explore STEAM & FIRST. Winter Wonderland is another outreach event where we strive to give back. Our Happy Healthy Robotics initiative helps us do just that combining robotics & compassion. Through Winter Wonderland we highlighted this initiative calling for toys or non-perishable food items as a gateway into the holiday magic. This enabled us to provide toys for those in need, as well as fulfilling our goal of 399 pounds of non-perishable food items to donate to our local homeless shelters. We also helped facilitate a local event called STEM for Girls, hosting workshops for young women pursuing careers in a field of predominantly men. We are especially proud of this impact we are having, as many new team members are young women. We are accomplishing our goal of attracting more women to STEAM.

### Establishing Relations

Building relationships with industry leaders has given us opportunities to grow beyond our expectations. Being a NASA house team gives us first-hand experience in the engineering field. Through monthly communications in the form of newsletters, we establish responsibility & strengthened business relationships. NASA also provides us with mentors, giving us an outlook on possible future careers in the world of STEAM. Sendcutsend allows us to develop designs & view the execution via our robots. We are working together with Kaliber 9, a startup business, that uses bomb-sniffing dogs to ensure safety at both private & public events, re-imagining the world of safety. Industry support grants the team opportunities to advance in problem-solving & critical thinking.

Team 399 has also developed strong relations with the cities of the Aerospace Valley. This can be seen through our established bonds with the City of Palmdale, through partaking in Adopt-A-Plane. Adopt-A-Plane allows us to "adopt" an aircraft at the Joe Havis Heritage Park, visiting the park every 2 months ensuring cleanliness around our adopted aircraft. Also, through bonds made with the Palmdale School District, we are working with educators to expand CORE. Through this we not only establish connections but create sustained traditions, fulfilling our mission.

### Re-Imagining

Team 399 looks for newfound ways to spread our mission. Through our 2 decades as a team, we have evolved tremendously, following trends to reach broader audiences. This year our team became primarily focused on re-imagining our recruitment & engagement to captivate the attention of all audiences. Turning to Social Media Platforms such as Instagram, Tik Tok, YouTube, & Facebook, we have garnered new audiences. Posting weekly, updating our audience on our endeavors, we've gained greater support for our team. With these newfound methods, we have also been able to encourage younger audiences to look towards STEAM as they pursue education. One greater re-imagined initiative has been Eaglets. This year we took Eaglets & made it accessible to all. Having each of our subteams work together we created a series of videos allowing for students to virtually learn what it means to be a member of Team 399. Further, we have taken the advances in technology & are hoping to welcome back RoboProm.

### Landing

Launching to new heights, Team 399 is pushing forward & advancing innovative ways to exemplify FIRST Core Values. With an unstoppable momentum, fueled by our love for robotics we are reaching our destinations. Emphasizing our initiatives, expanding our STEAM programs, & becoming bold innovators we are having fun & re-imagining our destination. Our destination is innovation.