

Chairman's Award - Team 399

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2021 - 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.

Team 399 innovators learn diverse skills such as communication, leadership, & technical skills. Over 4 years, our students gain self-confidence & branch out socially, taking advantage of newfound opportunities. Our seniors return as robotics tutors to AV CORE teams. With 100% of members graduating high school, the tight-knit network our team has created has secured internships with Lockheed Martin, Northrop Grumman, & NASA. 100% of our students pursue higher education, with 75% in STEM majors.

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

Aerospace Valley provides unique opportunities, with aerospace corporations such as NASA & Lockheed encouraging STEM. The region's culture of innovation within the 68 Title 1 elementary & middle schools allows us to expand existing STEM programs, garnering support for CORE curricula in classrooms. Our robot expos to younger kids create a pathway from STEM-oriented schools to FRC teams. Community events also advocate for STEM, where we showcase FIRST and its message.

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 creates public interaction with a FIRST robot through our scalable driving lesson. What started with 2 events tripled to over 6 occasions, displaying its effectiveness in attracting new innovators to FIRST. Our CORE pathway thrives on sustainability, shaping students with STEM curricula. Its success can be measured by the monetary support it receives. Other primary districts have expressed interest in adapting this replicable framework for their schools.

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

At AV Regional we have hosted our Chairman's exchange for 3 years, collaborating and discussing outreach opportunities. Our team continues to partner with the AVR board as representatives at city council meetings, & as volunteers, touring with local elected officials & corporate sponsors. 100% of our team volunteers & assists in AVTC, an annual FLL tournament. By logging over 3000 hours team-wide of volunteering year-round, we act as role models to other FIRST teams in our community and beyond.

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

20 years ago, Team 399 was the only team in our valley. Now, we are just one of 4 closely connected FRC teams in the AV CORE alliance. We have helped start these teams & often assist them, traveling together to regionals & collaborating technically. As newer teams reached out to us with questions, we decided to create PurplePrint: a schematic of the success & structure of all aspects of our team. From leadership to event planning & design to prototyping, PurplePrint inspires teams to think big.

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?

We educate younger generations on STEM in entertaining & comprehensible ways. At school events we host demos that captivate students & admins, who consistently invite us to return. We have run our FLL tournament, HDLT, for 13 years, inspiring over 500 FLL students in the past 3 years alone. Our summer robotics & eaglets workshops teach younger individuals about FIRST through hands-on activities, having interacted with over 600 students through shop-based workshops in the past 3 years.

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

Working closely with other organizations to spread FIRST's message has been a priority for Team 399. Working with NASA, we have provided 360 students with VEX robotics experience over the past 3 years. We also annually work with the AV Fair Association, recently expanding our partnership to bring STEM exploration opportunities to our local fair. Partnered with Andymark, we have been able to provide annual scholarships to two robotics students for 2 years, giving back to the FIRST community.

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 equity, diversity, & inclusion in any setting, & advocate for such. We present at district STEM for Girls Conferences, inspiring over 200 women to pursue male-dominated fields. Equity is visible on our team, with leadership composed primarily of women (75%). We embrace our diverse community, with 46% of our team being of Latinx descent. We also cater to those with disabilities, hosting inclusive workshops & assisting with special education proms at our school.

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

Our expanding umbrella initiatives maintain consistent core purposes. Our Happy Healthy Robotics umbrella houses concepts & basics for workshops, using tools such as the NEST (necessary event supply tote), to allow effective execution for years to come. Our CORE alliance garners school district support for the network of teams & classes in our area, sustaining the alliance. Our leadership team prioritizes longevity by having students shadow, preparing future leaders to leave their own legacies.

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

By venturing into the community, we represent our supporters & capture the attention of other corporations. We volunteer for our sponsors at events such as the Poppy Festival, a notable state event with over 45,000 attendees. As a NASA house team, we send monthly newsletters to display progression. We also host Rollout, showcasing our robot to sponsors as we tangibly exhibit their support. We feature sponsors on our website & team shirts, & give them team gear to express our gratitude.

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

As a 20-year-old team, we tend to focus on the big picture, expanding our initiatives & crafting our legacy. But in this process, we can sometimes forget to upgrade & engage the founding principles of a robotics team, the fact that we are here to train & educate our team members, including them all in the workings of our team. Creating standardized training, manuals for our operations, & engaging all sub-teams in every project is helping us go back to our foundation as a robotics team.

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

We seek to elevate the standard by putting the "A" in STEAM. We engage students with more than robots, inspiring innovation & leadership in multiple areas. We attract the public with over 20 various experiences, finding new ways to host events. Creating immersive tournaments & charitable events challenges our engineering skills, building robots and sets. Our students learn efficiency creating scalable workshops & STEM activities, fostering mentor-based programs for like-minded innovators.

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.

14 yrs ago we set out to bring the FIRST community together, & Roboprom was the answer. Hosted at both championships, what started as 200 attendees has grown to over 4,000 robotics students gathering annually to bond, escaping the stress of competition. Gaining the attention of major FIRST-related Twitch streams & now partnered with Andymark to give scholarships, Roboprom receives global traction. Having gathered 1000s of social media posts in the last 3 years alone, we are reaching new heights.

Essay

Mapping Our Future

Two decades ago in SoCal, we founded Team 399, the first FRC team in the Antelope Valley. Since then, we have worked to emulate FIRST's Core values, establishing our foundation. Now, building off this, we're spreading a passion for STEAM, allowing us to map a pathway of success for our students & community. Our goal is to elevate the standard with our STEAM efforts, & with our platform shaping new generations of leaders & innovators, we are catalysts, a force for change.

Foundations

What started as an empty auto-shop became an epicenter of collaborative leaders, now bustling with 70 active members & 8 industry-trained mentors. Our team covers a range of skills & capabilities over 4 sub-teams: Manufacturing, Multimedia, Programming, & Public Relations, each one comprising dedicated like-minded thinkers. We carry our shop's atmosphere with us to events, our bright orange jerseys & purple shirts becoming a recognizable symbol of over 20 yrs of FIRST advocacy. As our brand has grown, we've become known for hosting Roboprom each year, having given out over 2000 Roboprom branded buttons in the last 3 yrs alone. Establishing & sustaining this iconic branding, our team takes lessons learned in sustainability & applies them to our community efforts. Whether it be maintaining connections in education, funding from our sponsors, or relationships within the FIRST community, Team 399 prioritizes mapping out new opportunities for future leaders to embrace our team's motto, "Dream more, Learn more, Become more."

CORE

Team 399 fosters a passage of STEAM curricula, modeling future FIRST innovators. We began this process 3 yrs ago, approaching the AV Union High School District board with the idea of CORE, the Coalition of Robotics Educators. CORE's goal is to create not only an alliance of FRC teams but act as an initiative to magnify STEAM & robotics education in schools. Attracting educators to mentor teams, we spread FIRST's impactful mentor-based programs. As a network of 4 teams, we exchange ideas & collaborate, with expansion forthcoming. CORE also created 3 robotics classes & ensured over \$60k in funds over the last 3 yrs for regional registration, subsidized travel, & tools/equipment, providing for a crucial part of these teams' success. In fact, Team 7607, founded via CORE, was awarded the Rookie All Star Award & attended Champs in 2019. In continual support of these teams, our district employed robotics tutors who are all Team 399 alumni, spending 19 weekly hours in these teams' shops for support & guidance. These teams also receive assistance from us in the form of materials, advice, & time in our shop.

With the success of CORE, we sought to expand the initiative to all levels of education, bringing about the formation of CORE Beginnings for elementary & CORE Transitions for middle school. We introduced this idea at Palmdale School District's Teacher Technology Facilitator meeting. By approaching 28 teachers who have existing knowledge about STEAM & using technology in the classroom, we found the perfect audience for the proposal of our initiative. With 4 districts & 68 schools in our area, the positive feedback from this meeting sparked plans to present our idea to each district's board of trustees. By creating a pathway of FIRST & STEAM education, we're elevating the culture of our area to benefit students of all ages, reimagining inter-district collaboration. This pathway takes advantage of existing STEM academy feeder schools & expands them, creating an educational channel. Sustaining this initiative, we are actively packaging & standardizing its framework so that it displays itself as a replicable source for school districts anywhere to emulate.

On the Road

With our Robotics Roadshow, we give everyone the chance at a FIRST experience. We've produced a transportable field & robot that adapts to any venue. The field can range from 144sqft to 400sqft, with robots sizing from FTC sized to FRC sized. Roadshow elevates the normal robot demonstration or static display into an immersive experience, driving a robot through an obstacle course we created. We debuted Roadshow at our local baseball stadium three yrs ago & since then have brought this experience numerous times to a variety of venues, such as our local libraries, NASA facility, & school district events such as STEM Conferences for Girls. The success of each debut at these venues led to their coordinators reinviting us, asking that Roadshow come along. Having reached 10,000 people alone by being featured at our local baseball stadium on 3 occasions, Roadshow's impact spans large audiences & leaves a mark, rewarding each driver with a token of remembrance, a Robot Driver's license. After driving our robot, people of all ages become enthusiastic about FIRST, & there are no limits as to where Roadshow can go.

Coopertition

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Team 399 seeks to support students at all levels of FIRST. We've ran & hosted a practice FLL competition, the High Desert Lego Tournament (HDLT) for 13 yrs, providing teams across SoCal with a reliable way to practice for their upcoming season. This event demonstrates how we act as role models, as it inspired a student who attended to ask for our assistance in starting an FRC team at their high school. Our team has also assisted in the local qualifier, the Antelope Valley Techno Classic (AVTC) for 9 yrs, where we supply student volunteers to be refs, scorekeepers, & pit runners, & provide a modified version of our HDLT set. Each year, the set design changes to adhere to the year's game, & is recognized in the FLL community as a towering spectacle (recognized by FIRST LA). Through HDLT & AVTC, we've reached 100's of FLL students, navigating new ways to host tournaments that elevate the standard.

Visionaries

Team 399 is "making it loud" by incorporating art into STEM. HDLT's set design has increased in size & visual impact, reaching a length of 32' & a height of 14'. These grand sets are hand-painted & paired with light shows, pre-match graphics, & custom trophies. Taking on such tasks benefits members by contributing to their well-rounded engineering skills, adding construction design to their skill set. We bring a similar experience to AVTC, captivating participants. As a new addition, we introduced Winter Wonderland. This free holiday walk-through experience was full of photo opportunities, displaying renowned holiday characters & sets made in partnership with our school's Set & Design Class. Increasing collaboration with this class, considering both operate out of the same shop, adds new dimension to opportunities that await us. From an 18' Christmas tree made of lights to a projection-mapped castle, this event demonstrated our team's ability to apply technology to the arts, & helped us gather food & toy donations for our local charities. For our city's annual Holiday Parade, we built a parade float that was larger & more creative than previous yrs, leading us to win the Sweepstakes Award (most beautiful float). We believe an appreciation for art in the world of STEM generates a broader view, showing that FIRST teams are "more than robots."

Giving Back

To benefit our community, we advance our Happy Healthy Robotics initiative, combining robotics with compassion. Through 399 Pounds we've collected over 4500lbs of food for those in need, & with Red Cross have put on over 30 blood drives. Our additional coat drives & care packages for the homeless contribute to our team's dedication to serving our community beyond STEAM opportunities. Having logged 250+ devoted hours (3 yrs) to our charity events as well as community charity events such as Laps for Literacy, we leverage connections with our community to give back.

Workshops

Team 399 workshops are well-known & well-attended across our valley. Our annual Eaglets workshop, started in 2010, introduces young students to our subteams over several weeks, allowing them to shadow FIRST leaders during build season. We also run our annual Summer Robotics Workshops, weeklong events where 60+ students split into teams to collaborate, building VEX robots that compete in a custom-made game. Hosted 5 times in the last 3 yrs alone, SRW continues to sustain itself. Beyond manufacturing skills, we engage our community with programming opportunities, partnering with middle schools to assist in Day of Code events. Through our other ongoing events such as Eggstronauts, Bottlerockets, Robot Driver's Ed, & FIRST 4 girls, nearly 500 students have learned about the design process & been introduced to the excitement of FIRST.

FIRSTBonds

Better together, Team 399 recognizes the strength in building bonds. Whether it's with businesses, other teams, or our own communities, we leverage our resources to amplify FIRST's message of inclusivity & innovation for all. As a NASA house team, we bond with other partnered teams through build season meetings. Partners like the Air Force Rocket Lab inspire us in turn, urging us to apply for, & ultimately win, grants such as the Enspire grant. Beyond connections we made with local & government officials in support of FIRST goals, we forge links with our global FIRST friends. Being guests on the Latin channel Telemundo & connecting with our Turkish friends, Team 6436, are just a few ways we seek to bridge cultural gaps. We share our progression with our local & FIRST community via reach on media, having reached 75000+ through features in our local newspaper & 125000+ through our YouTube & social media presence.

We Will

As catalysts, we encourage students, educators, & school districts alike to bond over the FIRST Core Values. Driven by our passion for STEAM, Team 399 prepares students for opportunities of the future. Destined to succeed, we're creating bonds with all levels of FIRST as well as our community. Helping future generations pave the way for exploration, Team 399 is turning the 'what ifs' into 'we wills.' Together we rise as a global force for change.