

## **FIRST Impact Award - Team 3341**

<b>2024 - Team 3341</b>
<b>Team Number</b>
<b>3341</b>
<b>Team Nickname</b>
Option 16
<b>Team Location</b>
San Diego, CA - USA
<b>Describe the impact of the <i>FIRST</i> 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 <i>FIRST</i> programs as mentors/sponsors.</b>
Our outreach activities were able to recruit 70 students to join our team as a result of their participation in our STEAM & Girl Scout Workshops, FLL Explore Expo, and FIRST team mentoring. 100% of our Option 16 students have graduated high school, 100% attend college, and 95% have pursued STEM majors. 3 of our alumni have become FIRST mentors with our team. One of our alumni works for one of our sponsors.
<b>Describe your community along with how your team addresses its unique opportunities and circumstances.</b>
Option 16 is located in Rancho Penasquitos in San Diego. To invest in our outreach programs, Option 16 chooses to participate in only one regional. We have started and funded the La Clase Magica and BLAST programs. 100% of our fundraising supports our outreach program, and 100% of our team participates in mentorship. Executive leadership meets weekly on Wednesday to sustainably run our program, and foster emerging student leads.
<b>Describe the team's methods, with emphasis on the past 3 years, for spreading the <i>FIRST</i> message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?</b>
Together we achieved over 3750+ mentoring hours in the past three years with 100% of students mentoring. Our team develops flexible, creative methods of mentoring teams both on and off campus to reach as many teams as possible, with our on campus mentoring allowing more teams the resources and support of our entire team. We work to plan and execute community outreach like our STEAM Workshop, Girl Scout Workshop, and FLL Explore Expo in order to sustain an interest in STEAM in our community.
<b>Please provide specific examples of how your team members act as role models within the <i>FIRST</i> community with emphasis on the past 3 years.</b>
We use every opportunity to be role models of Gracious Professionalism and Coopertition. Our mentors integrate FIRST Core Values into mentoring curriculums and team building activities. We incorporate FIRST core values during our mentoring sessions. Our student mentoring makes an impact in our

community, with participation from kids in our BLAST program at our community events increasing as our partnership continues. We have recruited 70+ students through participation in one of our events.

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

With grants and fundraisers, Option 16 has started and fully funded FLL Explore and Challenge for La Clase Mágica and mentored since 2015. We received the FIRST Equity & Access Grant in 2021-22 & utilized the \$3000 to upgrade to LEGO Spike Kits, tablets and chromebooks. We started and fully funded Los Penasquitos BLAST and mentored since 2022. We invested \$5000 for BLAST with new LEGO Spike Kits, tablets and chromebooks. We mentored 56 FIRST teams on and off-campus with local feeder schools.

**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?**

In our ongoing commitment to empower young leaders and innovators in STEAM, we've partnered with Westview's Summer Bridge program, supporting at-risk students in their high school transition while fueling their passion for STEAM. Within our team, we've fostered an environment that promotes leadership with new students becoming emerging leaders. We continue to host STEAM and Girl Scout workshops, annually reaching and inspiring 550+ young students to lead & innovate in STEAM.

**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**

Our sponsors are BAE Systems, Qualcomm, PUSD Career Technical Education (CTE), Northrop Grumman, and Autodesk. We partner with our sponsors by participating in the CTE Expo and inviting sponsors to judge at our FLL Explore Expo. We also partner with feeder schools to mentor FIRST teams, with several Option 16 students being previous mentees. Through our partnership with La Clase Mágica and BLAST to support their program to promote new educational opportunities for underserved populations.

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

Our team weaves in FIRST's core value of Inclusion throughout the year. 100% of our team is FIRST EDI trained. We promote EDI values by pledging No Place for Hate's resolutions, celebrating Hispanic, Black & Women's History Month & improving equity in our community via outreach efforts. Our team also formed a Diversity Committee that has made district-wide efforts to promote STEAM and diversity to middle schoolers via STEAM fairs on multiple campuses & a video on the classes our school offers.

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

Each year, we promote leadership among first-year students by supporting them to acquire leadership & technical skills. These students then teach these skills in their second year to incoming new students, which sustains this chain of knowledge. To prevent a stop in our influx of new members, we spread awareness of Option 16 in the teams we mentor and in Westview. We also have each student keep a digital notebook to store their research and work to sustain knowledge for future generations.

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

Through applying for grants and demonstrating our visions and goals, our team develops relationships with our sponsors. To retain and engage our sponsors, we include them in our outreach events, such as judging at our FLL Explore Expos. We regularly attend the Poway Unified School District Career Technical Education Expo, BAE Systems Bring Your Daughters and Sons to Work Day and the Solar Turbines Open House. We have 4 dedicated mentors from BAE Systems.

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

While our team is proud of our female diversity, we are actively working to increase our ethnic, racial, and LGBTQIA+ diversity. Last year, we started our Diversity Committee that works with our administration to increase minority groups' accessibility to engineering and robotics programs on campus. We developed a project with our Broadcasting and Journalism class to advertise STEAM opportunities and pathways on campus, and reached out to middle schools holding booths to showcase Option 16.

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

To fulfill FIRST's mission, we open access to our FRC team by welcoming all students regardless of experience level. Student leaders teach incoming students in our preseason learning so that everyone can contribute during competition. We created a sustainable model to train emerging leaders with our postseason leadership development. This provides a safe environment for students to refine their soft skills through experiential scenarios for communication and teamwork.

**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.**

During our preseason learning, advanced projects, and 4-week mentoring training, we aim to create a welcoming team environment by organizing smaller interdisciplinary groups that we call color teams. In color teams, students collaborate through team-building activities that help foster a spirit of coopertition and inclusion. These smaller, tight-knit groups for students not only enhance the overall team dynamics but also reflect our commitment to create an inclusive atmosphere.

**Judge Feedback**

Who/When	Feedback
Mar 24, 2024 10:12:11 AM EST	<p><b>Option 16 has had a blast counting volunteer hours to quantify our impact. What is the total number of hours across all Regional judges?</b></p> <p><b>An area the team has an opportunity to improve.</b></p> <p><b>Something that really impressed the judges.</b></p>
<p><b>Essay</b></p>	

Option 16 (O16) is made up of learners, mentors, & innovators. Our mission is to spread the FIRST message and inspire our community. We sustain our initiative to build the future of STEAM, whether it be

through our outreach efforts or diversifying our community, we will always take the opportunity to grow & improve, regardless of the challenges that we face. Each member orchestrates every facet of what makes our team what it is: a community dedicated to inspiring our school and community to drive the future of STEAM.

We begin our year-long program by inviting all students regardless of prior experience, and create an inclusive environment for incoming members through our interdisciplinary, student-led color teams. Within color teams, veteran students integrate incoming students into O16's group dynamic & new members are encouraged to participate in their teams, bond with peers, & grow as leaders.

Students begin their robotics journey by diving headfirst into a month of outreach, mentoring, & workshop training, ensuring every student is equipped to contribute to our outreach program & foster FIRST Core Values in our community. After training, our students are prepared to deliver our free STEAM Workshop & run our extensive FIRST mentoring program.

At the conclusion of outreach training & STEAM Workshop, students are ready to begin their own STEAM journey. Members participate in 4 weeks of preseason training, where they explore their passions in business, mechanical, software, & electrical modules through our student-developed & delivered curriculum & guided by industry mentors. O16 members have access to hands-on experiences with advanced equipment & tools that provide each member with the fundamental skills they need to succeed.

Putting their new skills to the test, students get a taste for competition season through our Integrated Advanced Project teams. Members choose a project focused on fostering interdisciplinary communication & collaboration. After our outreach training, preseason & IAP season, all students are fully prepared to take on the competition season ahead.

We constantly evolve our program to give the best experience to our members. Immediately after our competition season, student leaders improve & adapt our preseason training so future students can get the most out of their robotics experience. We create a pipeline of emerging leaders & work side by side with them to run our program & prepare them to take on greater responsibilities year after year. Through our postseason leadership training, students gain the confidence & soft skills needed to serve as leaders in our upcoming school year.

With 80% of our team actively involved in leadership, we promote a culture of learning by doing. As a student-lead team, we encourage everyone, especially our newest members, to take on our many leadership roles, whether it be leading color teams through team bonding activities, coordinating outreach events or organizing & overseeing IAP projects.

The goal of spreading our love of STEAM to the community fuels the heart of O16. Although we host various outreach events & programs already, we are constantly searching for new opportunities to make STEAM equitable & accessible to all. 100% of our fundraisers go directly towards our outreach program. With these resources, we purchase equipment & supplies in order to offer free workshops to our community, including our Summer Bridge program, STEAM Workshop, & Girl Scout Workshop.

With our GS Workshop, we aim to decrease the gender gap in STEAM by empowering young women to explore fields where they have been historically underrepresented. Our curricula aligns with their

Mechanical Engineering, Digital Leadership, Robotics & Cybersecurity badge requirements, & our workshops allow them to explore everything from block coding to building miniature robots.

O16 has sustained an extensive mentoring program since 2014. 100% of our members mentor FIRST teams. As our student mentors share their knowledge & joy surrounding designing, building & programming, they instill FIRST's Core Values into future engineers, educators, & innovators. We have recruited 70 students to join our team after participating in O16 outreach events, demonstrating how we have directly inspired young children to pursue a future in FIRST & STEAM.

To wrap up the FLL season, we ran & hosted our 13th annual FLL Explore Expo, where teams have the opportunity to present their LEGO models & posters to school district leaders, teachers, & sponsors. To inspire the attendees beyond FLL, O16 provides several h&s-on learning stations & demos, including computer vision, zumobots, FTC & FRC robots, spheros, 3D printing, Arduino projects, & TinkerCAD.

Invitations are extended to our team to participate in a variety of STEAM events throughout the San Diego area. We have supported Space Night at the SD Children's Discovery Museum, STEAM & math fairs at local schools, the Poway Unified CTE Expo, & the SD Festival of Science & Engineering.

Each year, O16 also represents FIRST at the San Diego County Fair. In the past three years, we have earned multiple Best in Class, Best in Show, & first place ribbons for our submissions, such as our FRC robots, CADs, award videos, brochures, 3D printed branding items, & VIP passes. These submissions help us showcase the hard work & talent of our students.

Although O16 aims to reach all parts of our community, we recognize the importance of reaching out to those that need it the most. We started and mentored the FLL teams in La Clase Mágica (LCM), an afterschool program for underserved youth in Solana Beach. We received the FIRST Equity & Access Grant in 2021-22 & utilized the \$3000 to sponsor, fund & mentor their program. Our team families also donated \$925 to support their food drive during COVID, when many parents lost their jobs. Mentoring the Los Peñasquitos BLAST program is yet another opportunity for our team to give back to our community. Fundraising allowed us to invest \$5000 in new LEGO Spike kits, tablets & chromebooks to mentor their FLL Explore & Challenge teams to enhance their educational opportunities.

Assisting Westview's Summer Bridge program since the beginning allows us to help at-risk rising freshmen acclimate to high school & make connections with our students prior to the school year beginning to ease their transition for middle school. We are honored to be invited year after year by administration to provide STEAM curriculum for this important program.

We sustain the diversity on our team by accepting all students regardless of background & allowing every student to be involved in our leadership program regardless of experience or seniority. All team members work together as equals, whether it is their first season or their fourth.

O16 is a proud champion of equity in STEAM. Our team, since its founding, has increased from being only 12% female to 46%. Our diverse team includes students with unique educational backgrounds & 11 different ethnicities.

We incorporate values of equity & inclusion throughout our entire season, especially in our EDI training. 100% of our team is FIRST EDI trained & 100% of our members have pledged to make our team & our

school campus No Place for Hate. We bring our No Place for Hate poster to regionals & share the Resolution of Respect, offering others to join our team in promising to make FIRST a safer & more inclusive space for all. We create Very Included Person (VIP) passes each year to pass out to our community, welcoming anyone to our team.

O16 is committed to promoting inclusion in not only our school, but our entire district & larger community. With our Equity Diversity & Inclusion Committee, we work to celebrate different cultures & encourage younger, minority students to pursue a path in STEAM. We host culture events during Hispanic, Black & Women's History Months, celebrating STEAM trailblazers & educating our team on the influence of minority scientists. The EDI committee coordinates with our district administration to facilitate the organization of STEAM fairs at Westview's feeder schools, reaching thousands of students across multiple campuses. A Black Mountain Middle School counselor stated, "some students went back to class after lunch & begged their teacher to return to the quad to talk to more of you...it was an incredible experience for everyone."

We have taken proactive steps to increase the involvement of underrepresented students in Westview's Career & Technical Education program (CTE) by producing a video exploring the experiences of CTE students at Westview in time for 8th graders who are signing up for their freshman classes. Westview's assistant principal, who has worked closely with the EDI Committee, believes that we have both impacted our school & our larger community, showing that people can pursue whatever they are passionate about, even if they've spent their whole lives feeling that they never belonged.

FUN FACTS: Volunteered 8,800+ hours in 3 years; Averages 50 hrs/yr of volunteering per student; Hosted free GS + STEAM workshops for 554 participants; Mentored 56 FIRST teams; Launched our mentoring program in 2014; Raised \$19,000 for outreach; Invested \$8,000 for BLAST & LCM; Average 79 students/yr with 45% are new students to our team; 4th year supporting Summer Bridge; Designed & distributed VIP (Very Included Person) passes for 10 years; Hosted 71 teams with 359 total participants in our FLL Explore Expo; 9th year mentoring LCM; 2nd year mentoring BLAST

Option 16 aims to not only work as a team, but to empower each of our students to reach outside of their comfort zone & make rippling impacts throughout our community. We are proud to be the catalysts of the future generation of innovators through our outreach efforts. Although the future is unknown, we will always work as a team dedicated to our community, constantly orchestrating better ways to spread the message of FIRST. ;

