Chairman's Award - Team 2478

Print Close

2018 - Team 2478

Team Number

2478

Team Name, Corporate/University Sponsors

Cox Communications / General Dynamics C4 Systems / Boeing / Freescale Semiconductor / Rural Electric / VKW Construction / Mesa Public Schools / Solidworks / European Fashion Group / Baker Brothers Flooring / Chipotle / Rainbow Graffix / IBM & Westwood High School

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2017/2018 year and the preceding two to five years

35 members: 95% planning on attending college 99% graduation rate vs a school-wide graduation rate of 63% 63% of seniors pursuing STEM careers Members blossom from timid, inexperienced new participants to confident, skilled contributors Alumni : 2 National Merit Scholars 4 Flinn Scholars Mentors: 1 Woodie Flowers finalist 2 AZ Robotics Teachers of the Year

Describe the impact of the *FIRST* program on your community with special emphasis on the 2017/2018 year and the preceding two to five years

Gave students at an underfunded school in West Mesa with 75% of students on free/reduced lunch the opportunity to participate in FIRST Further expanded FIRST to underprivileged middle and elementary schools through the founding and subsequent mentorship of eight FLL teams Hosted the first VEX competition in Mesa, Arizona Reached out to approximately 50,750+ people over the span of five years through events such as the AZ SciTech Festival and AZ Diamondbacks STEM night

Team's innovative or creative method to spread the *FIRST* message

Mesa Arts Center 2017 Main Street Prototyping Festival -5 month project -Designed, prototyped, and assembled an interactive Rube Goldberg Machine -Actively answered questions from those in attendance at the unveiling about our machine's capabilities, FIRST, and STEM

Describe examples of how your team members act as role models and inspire other *FIRST* team members to emulate

Pride and belief in our team -Participation -Responsibility -Interconnectedness -Dignity -Excellence Aiding teams without resources -Founds, mentors, and supports teams at disadvantaged schools -Assists other teams with gathering missing/necessary materials in competition pits

Describe the team's initiatives to help start or form other FRC teams

Spoke at various community events to promote FIRST Instigated founding of new teams in different high schools throughout Mesa, Arizona after years of Plasma Robotics being the sole FRC team in the area Spearheaded the MPS school district of 63,000 students to build FRC programs by offering -Robotics mentors stipends similar to that of athletic coaches -Robotics classes after school as part of a growing engineering curriculum -Facility and monetary support

Describe the team's initiatives to help start or form other *FIRST* teams (including Jr.FLL, FLL, & FTC)

Founded 8 local FLL teams -Seven at Zaharis Elementary alone -One at neighboring school of Emerson -Works with Westwood's library to procure FLL kits and begin community robotics/literacy program Formed a VEX team within Westwood's robotics class -Hosted first VEX competition in Mesa, Arizona -Served as Mountain View's auxiliary program for underclassmen

Describe the team's initiatives on assisting other *FIRST* teams (including Jr.FLL, FLL, FTC, & FRC) with progressing through the *FIRST* program

Built tables for Emerson, Whitman, and Zaharis Elementary FLL team Assist Skyline Robotics with CAD lessons to help them 3D model their robot Applied for grants from the Mayors office to build FLL tables for new FLL teams

Describe how your team works with other *FIRST* teams to serve as mentors to younger or less experienced *FIRST* teams (includes Jr.FLL, FLL, FTC, & FRC teams)

Shared the 2014 CAD folder with the neighboring Skyline Robotics team -Provided them with CAD lessons Hosted assemblies at local elementary schools to spark interest in and build up FLL teams Mentored Carson's two FLL teams and five VEX teams with the assistance of only one teacher Mentor young FLL teams to help continue middle school programs

Describe your Corporate/University Sponsors

Boeing, Cox Communications, Mesa Public Schools, Rural Electric, Nando's Mexican Cafe, Thomas & Betts, Rainbow Graffixx, and VKW Construction

Describe the strength of your partnership with your sponsors with special emphasis on the 2017/2018 year and the preceding two to five years

Cox Communications 5 years Avg. $9000 per year Boeing 5 years Avg. $5000 per year Mesa Public Schools 5 years Avg. $5000 per year Rural Electric 2 years Nando's Mexican Cafe 3 years Avg. $500 per year Thomas & Betts 1 year Approx. $200 this year Rainbow Graffixx 5 years T-shirts VKW Construction 5 years -Maintain communication with sponsors expressing appreciation -Participate in demos with sponsors to share STEM

Describe how your team would explain what *FIRST* is to someone who has never heard of it

Westwood Robotics describes FIRST as a competition between students of all ages that encourages sportsmanship, innovation, and celebration of the future world changers in science and technology. This is accomplished through robotic competitions and awards celebrating engineering capacity and community involvement as well as incorporating participants in programs for each age group that allow students to grow up with the FIRST program.

Briefly describe other matters of interest to the *FIRST* judges, if any

-Added new 6000 foot engineering facility at school -First Precision Manufacturing school in the district -Beta test team for 2016 LabView and Control System -Club of the year at Westwood High School -Serves as gateway to students into multiple STEM programs from college activities to internships with businesses -Sen. John McCain personally visited team

Team Captain/Student Representative that has double-checked this submission.

Coleen Jillian Barcena

Essay

Passion and ideas—the most valuable elements of the world—are the building blocks of everything living organisms produce. In passion can be found an inherent need to become more capable today than you were yesterday. Giraffes evolving longer necks, human lifespan expanding every century, and bacterium increasing in their capacity to overcome antibodies are examples of this in nature. At Westwood High School we call this "Move Up". Our education brings us closer to the edge of knowledge where we may cultivate new ideas. However, it is the culture of "Move Up" in our classrooms that provides the passion required to bring forth a meaningful evolution in society. Westwood Robotics is a prime example of this in action.

Westwood Robotics takes place at a public school with a graduation rate of 76% and a measure of poverty at 66% of the student body. The average annual salary of a teacher is $46,410 in the school district—$9,973 below the national average for non-starting teachers. Our school's graduation rate also pales in comparison to the nationwide rate of 84%. In contrast, the graduation rate of Westwood Robotics' students has been 100% since its founding. Westwood Robotics has also brought attention to this Title I school as evidenced by visits from Arizona Senator John McCain, local news station ABC 15, and digital magazine GCU Today—just to name a few. More importantly, students in this STEM program are able to climb out of poverty by pursuing a higher education for skilled jobs using the principles implanted by Westwood Robotics and FIRST. This obvious effect is why we place a high-priority sticker on getting younger kids into FIRST as well as our immediate peers. One Alumni from the class of 2017, studying computer science and statistics at Arizona State University, learned to program from robotics and chose his major because of that experience. A current senior at Westwood High School, planning to study civil engineering, stated, "Robotics has helped me develop my leadership skills and has propelled me to pursue a career in engineering." Every year we sift through our school, to honors and general students alike, and encourage them to join a student organization that successfully sculpts a class of students with the core characteristics needed to "Move Up" and do more beyond their station. Even past the bounds of our school we regularly reach out and directly influence the interconnectedness of our surrounding community with the intentions of drawing more youth towards the realm of robotics.

Despite having been founded in 2008, Westwood's robotics club, then called Precision, stagnated in just a year and laid dormant until 2013 when yet another group of determined young students decided to revive the program. From its very first year of being reinstated, Westwood Robotics became very involved in actively working to spread the message of STEM to its underrepresented community and quickly built up a rich history of founding, supporting, and mentoring FLL teams throughout Mesa, Arizona. Beginning with our neighboring primary school, Emerson Elementary, we have since branched out across and beyond Mesa as the founder of eight FLL programs at underfunded middle and elementary schools. After all, such teams were nonexistent not for a lack of interest; an absence of financial and faculty support was what truly limited their opportunity to establish a team. We also work closely with the VEX program and in fact hosted the first VEX competition in Mesa, Arizona. In an attempt to further spread FIRST's message of innovation and improvement, we spearheaded the Mesa Unified School District to build FRC programs by offering robotics classes after school as part of an engineering curriculum, giving monetary support for registration and transportation, and offering facility support in terms of construction space and machining tools.

Our impact is already evident in the lives of our alumni. One of Arizona's most prestigious programs, the Flinn Scholarship, accepts only 20 students every year in the entire state. Out of the 40 recipients in the past 2 years, 4 have been our alumni, and each has cited robotics as an integral part of their formation and their decision to go into STEM careers. We have fostered National Merit finalists, a National Hispanic Scholar, and continue to support our current team members. Having former students in top universities such as Stanford, Vanderbilt, Rochester, Duke, University of Arizona Honors, ASU Barrett Honors College, BYU, University of Alabama, Wesleyan, Olin University, Rice University, University of Southern California, University of Minnesota Honors, and more majoring in science and engineering fields demonstrates Westwood's long lasting impact on its community of students.
As for directly impacting our community, we have participated in a wide range of demonstrations and in just four years have managed to reach out to 50,749 people and counting through events such as the AZ Diamondbacks STEM Night and the AZ SciTech festival. One of our most innovative and impactful outreach projects, in fact, was the construction of a Rube Goldberg Machine for the Mesa Arts Center 2017 Main Street Prototyping Festival. Over a span of five months, we worked tirelessly on the machine—resulting in a prototype that was an engaging, interactive creation demonstrating science, technology, and teamwork. During our unveiling of the project, we actively spoke with and answered the questions of those in attendance in terms of the machine's capabilities, our building process, and the components of FIRST itself. We encouraged young students to become involved with STEM programs in their schools and community, hopefully influencing many of them to explore a potential future with FIRST. Considering our community's diversity, we have also been given the opportunity to introduce FIRST to an underrepresented range of people. From attending Day of the Dead and Cinco de Mayo festivals to participating in the Women and Girl's Campaign, we have endeavored to spread robotics farther than just our own neighborhood. All of our efforts have been in the hopes of encouraging not just our school but also our community to "Move Up".

Essay - page 2

But of course, Westwood Robotics did not, on its own, blossom into this life altering program. After all, every great movement has to start small with a single individual. As they work their way through the program, each and every student is in some way transformed by their experience in team 2478. Initiative, focus, kindness, and excellence are the hallmarks of Westwood's robotics culture. Carefully crafted by our devout mentors and maintained by student leaders and alumni, the principles participants take away from this team environment advantage their efforts to personally transform their cities, communities, and immediate company. Our students volunteer at food banks, mentor younger teams in VEX and FLL, found other STEM clubs, represent the community in city government, tutor elementary students, cleaning up the campus, and build websites for nonprofits, not to mention giving speeches to high school and junior high students and touring in a national campaign for better environmental legislation just to name a few endeavors. Made up of a varying mix of students, our club includes athletes, machinists, writers, programmers, dancers, and designers to name a few. We are diverse not only in race or socioeconomic status but in aspirations and perspectives. In the end, however, we are ultimately united in our quest to transform our communities in the finest way in which we are honestly capable--as illustrated by the aforementioned extracurricular activities.

All in all, the Warrior Robotics family has grown considerably. Many of our team officers are only in their second year of Westwood Robotics, yet they all find a way to contribute to the team and the veteran members have stepped up in allowing them to do so. We are a force to be reckoned with. At competitions, every person moves up and cultivates a methodical approach to problem solving and consistent performances at every match. At our community outreach events we expose children to STEM in the hopes that they will one day move up and improve their communities via engineering and inspire the world with future technologies, arts, and sciences. Academically, we come together in our collective goals for sustaining technical learning as our high school days dwindle and we grow closer and closer to graduation day. As we push the bar of excellence higher and higher every season, we raise ourselves up unitedly in a movement towards a more inspired community and a greater understanding of FIRST. Beyond this, Westwood Robotics holds to the highest regard a hard worker with kind manner. Excellence in machining, coding, modeling, or presentation are of course welcome. However, it's not as imperative as a sense of community and understanding. This idea is exceedingly crucial when describing what Westwood Robotics is. In a nutshell—to illustrate our influence upon the world—just as universities impact society through the groundbreaking alumni they produce, the core principles of Westwood Robotics create a cohort of capable young men and women who go on to greater places and evolve nations with their inspiring accomplishments in science, the arts, and technology.