

Chairman's Award - Team 2881

[Print](#)[Close](#)

2019 - Team 2881

Team Number

2881

Team Name, Corporate/University Sponsors

Girl Scouts of Central Texas/Dell Inc./Duck Tape/BAE Systems Inc./GSCTX Troop #3993/Qualcomm/Cookie Monster&Girl Scouts of Central Texas Troop 3993

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2018/2019 year and the preceding two to five years

FIRST has impacted our alumni by inspiring our graduating members to pursue a higher education in fields inspired by their robotics experience such as engineering in the build team or business skills through chairmans. We have a 100% college attendance rate. Majors: '18 Mechanical Engineering x4 '17 Engineering/ Finance '16 Cyber Security Electrical Engineering '15 Biomedical Engineering Environmental Science Computer Science x2 Math '14 Aerospace Engineering Mechanical Engineering x3

Describe the impact of the *FIRST* program on your community with special emphasis on the 2018/2019 year and the preceding two to five years

Because of FIRST we were able to create a K-8 classes using the FIRST Lego League program. Its curriculum focuses on educating young girls in our community by introducing them to mechanical and software engineering skills and principles. We encourage them to instill FIRST core values such as discovery, innovation, and teamwork into not only their building process, but their daily lives.

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

'Bringing programs to underserved communities Travel 6000+ miles a year to rural communities to spread STEM/FIRST principles and opportunities STEM educational programs hosted by us in 45 counties Relationship with Technology Companies, Girl Scouts (GS), and FIRST Dell, Google, Google Fiber, Qualcomm, Apple K-8 program Curriculum designed for students in K-8 that incorporates every aspect of STEM by using EV3 Robots

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

Mentorship Network Mentors and alumni pass knowledge to older members, who then mentor newer members. 92% girls feel mentored by older team members Marketing and branding Our brand is easily recognizable as the Girl Scout, Duct Tape team Like a corporation with the robot as the product, we use marketing, business, and executive skills Executive officers with a board of directors Fabrication team follows a Gantt chart Embody gracious professionalism and cooperation in everything we do

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

Metallic Clouds - Team 4335 from Waco, TX Provided them their main sponsor, Girl Scouts of Central TX Ensure they are notified of grants and offer assistance with application process Share resources and mentors System Startup Created by a former CEO Administrative documents on how to start and maintain a FRC Team Resources for competition, awards, build season, off season, etc. Instructional robot manufacturing videos

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

McAllen, Texas outreach with FIRST Assisted the creation of 10 FLL Teams, 1 FTC Team, and 1 FRC Team 3 FLL and 1 FLLjr. Team sponsored by GSCTX and Lady Cans They graduate from FLL and join the Lady Cans 50% of team members were on an FLL team before joining the Lady Cans 2 FLL teams in Austin and 1 FLL Team in Bryan College Station FLL Survival Guide on FIRST in TX website Created by former COO How to start and maintain an FLL Team

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

Assisted at Competitions Hosted and assisted in 4JFLLJr Expos Volunteer at FLL events in Austin area Provide education Ran FLL Coaches Kickoff Girl Scout FTC team from Atlanta Periodic emails to help get started GSCTX FLL team in Bryan College Station Weekly check-up emails to provide assistance

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)

3 GSCTX FLL teams and 4 FLLJr team Weekly mentoring Year-round FLL team Use our buildspace Most members from the FLL team eventually join the Lady Cans Space on website for both FLL and FLLJr Teams

Describe your Corporate/University Sponsors

11 year partners Girl Scouts of Central Texas Buildspace, Mentors, Grants UT Austin Mentors 7 year partners SolidWorks In kind Duck Tape In kind 6 year partners Dell Mentors Grants 5 year partners BAE systems Grants 3 year partners FIRST in Texas In Kind Qualcomm Grants 2 year partners Apple Grants

Describe the strength of your partnership with your sponsors with special emphasis on the 2018/2019 year and the preceding two to five years

- They become listed as an official sponsor - The logo of the sponsor is presented on robot, shirt, banner, website, and promotional information - Their social media/hashtag is included in all posts - We perform monthly shoutouts on all social media platforms - Invitation to annual robot demonstration - Innovation to all competitions - Annual Girl Scout Cookies!

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

FIRST is a community where students come together to achieve a common goal of inspiring future science and technology leaders. Through competitive events FIRST participants are able to explore engineering and programming while learning how to creatively problem solve and work in a collaborative environment. However, FIRST is more than robots. By using FIRST's platform, teams can spread STEM to their communities with outreach and student led initiatives. First is cultivating well rounded leaders.

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

A well known value of FIRST is Gracious Professionalism. It encourages high quality work while maintaining the respectful of others. Similarly, the Girl Scout Law shares many of these attributes. The Lady Cans make sure to emulate these qualities throughout every FIRST event, competition, and demonstration we attend. We instill this mentality into our members and ensure that these values continue to spread inside and outside of FIRST.

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

Emma Miller

Essay

The Girl Scouts of Central Texas FIRST Robotics Team 2881, The Lady Cans is an Austin based team that supports the FIRST mission by creating STEM education opportunities, inspiring and developing young leaders, and mentoring youth. We were founded 10 years ago by six girls who all had a common goal to inspire young women through experiences in STEM to become future leaders and executives. By reaching out to girls in our community from a variety of ages and socioeconomic backgrounds we are able to inspire a passion in STEM, and develop the future leaders of tomorrow.

OUTREACH

As a team located in one of the technology capitals of the nation, we have grown up surrounded by ample STEM education opportunities. Recognizing our privilege, we've devoted our educational resources to aiding STEM deserts across Texas. Through our outreach initiatives, we noticed a large population of students who were willing to drive hours just to attend our two hour events. Aware of the wealth of resources we have as a team, we felt as though we could be doing more for the students in these communities. In order to execute this mission, we developed our 'Big to Small' initiative, which is designed to level the playing field of opportunity by providing resources to underdeveloped communities. In order to further our goal of culture change, we are working 365 days a year to make STEM education an active and common component of these students' academic careers.

Each year, The Lady Cans travel over 6000 miles to rural communities across Texas, teaching STEM and FIRST principles through our Kindergarten-8th grade STEM education program. Our program focuses on educating girls in mechanical and software engineering by combining our curriculum with FIRST EV3 and FLL programs. We take girls through a 3 step process to create a functioning EV3 bot while furthering their knowledge of the basic concepts of engineering and familiarizing them with the Engineering Design Process. We are able to deliver this knowledge to our community through our 50 annual classes.

While our 3 step curriculum is designed to break down complex topics, our goal within each lesson is to help girls gain confidence in their abilities and allow them to feel as though a STEM career is not only attainable, but also successful. One example of how we do this with our younger students is through our STEM HERO coloring books. By using coloring books to walk girls through the engineering design process during our lesson, we are able to make a complicated concept more visual and familiar. We teach these with the goal of making STEM education a common part of a student's life. In order to ensure we are constantly improving, we ask girls to fill out surveys at the end of every event. The data from these surveys have shown that every one of the girl we teach leaves more passionate and confident about their own ability to excel in STEM activities. Our classes range from topics like the physics behind race cars, to the mechanical design of a robot. By teaching classes that appeal to students of varying interests and age groups, we are able to impact a greater number of girls and ultimately see our influence on the changing culture of STEM fields.

LEADERSHIP

In order to turn every girl into a leader, The Lady Cans have created numerous programs to impact not only our community but the girls within our team. We often say that we run our team like a business and our leadership system reflects this. With four leading chiefs (CEO, CTO, CFO, COO), followed by a board of directors and their committees, we have given every girl on our team a place to practice operating in a professional environment. Our team members are encouraged to explore the numerous opportunities provided to them before choosing their committee. Each new member begins by trying their hand at designing, building, programming, and presenting a simplistic robot in a small group before our FRC competition season begins. By giving every student a personal project, they are able to find which aspects of robotics they are most passionate about. This early influence allows our members to excel in their jobs and even graduate into more demanding leadership positions in areas they are enthusiastic about.

In order to combine the interest of robotics, outreach, and leadership, our girls are encouraged to create personal service projects for the team to maintain. 13 of our current and former members have created a sustainable STEM program or initiative. While every student who takes this responsibility on devotes a minimum of 80 hours to their project, many go on to help maintain and oversee their vision as they become FIRST alumni. Our team has taken on the responsibility of maintaining and ensuring the sustainability of these programs. For example, The Women in STEM Shadowing Program (WISSP), was designed to give girls a look into potential future STEM careers. Girls who participate shadow a successful woman in their desired field and get a first hand experience of what that particular career might look like. Through the programs our girls have developed, we have been able to sustainably change the culture surrounding STEM in our community in astounding ways.

Essay - page 2

Our outreach demonstrations are a large part of our expansion efforts. We attend annual corporate demonstrations for companies such as Dell, BAE Systems, and Girl Scouts of Central Texas in order to successfully network with potential sponsors and mentors. Through application based learning and first-hand experience, we are able to transform these demonstrations into experiences that utilize real-world skills. Outside of corporate demonstrations, we work with organizations in our community to further expand the FIRST vision of culture change. At events like the University of Texas's Introduce a Girl to Engineering Day, we are able to reach over 10,000 girls where we actively recruit members for the FIRST teams in our area. Our team focuses on showcasing the opportunities FIRST provides to help fulfill our ultimate vision for culture change, 'To empower young women through experience in STEM to become future leaders and executives.'

FIRST

Our students are passionate about making FIRST an opportunity that's available to all students. Two of our girl led service projects were directly designed to do just that. The first of these is the FLL Survival Guide. The project was designed to give passionate students and teachers a straightforward path to their journey within FIRST. While geared towards FLL, the final product contains a comprehensive guide on how to properly run a FIRST team of any family that includes resources for locating and maintaining mentors, sponsors, and students. The second project is designed to simplify the more complicated and demanding requirements of an FRC or FTC team, otherwise known as the FRC Start-Up Guide. This delves more into the specifics of meeting structures, developing outreach, balancing finances, and preparing for competitions, while still expanding on parent and mentor involvement. Using these guides, we have been able to sponsor three FLL JR teams and two FLL teams, while assisting in the creation of two rookie all-star award-winning FRC Teams: the Howdy Bots and the Metallic Clouds. On top of this, we run, host, and assist in an FLL coaches kickoff, and four FLL-Jr Expos annually, all of which are planned and run by our team members. By having such a high involvement in the development of FIRST teams, we are forming a system of growth that we call 'The Daisy Chain'. This system was created to give girls the opportunity to stay within the FIRST program throughout their entire academic career. Girls are given the opportunity to be a part of our FLL Jr, FLL, and then FRC team. Over the years, we have established an environment where through exposure and discovery, no chapter of a girl's life will be without STEM education.

Within our 11 years, we have grown from a team of 6 passionate friends, to a team of over 45 young women, ranging from the 6th to 12th grade in 7 school districts. In our time, The Lady Cans have fostered 28 of the leaders of tomorrow. From Biomedical Engineers to NASA employees, the Lady Cans Alumni have a 100% college attendance rate. Out of the 30 Alumni, 24 have chosen to pursue a STEM field through higher education. The Lady Cans are cultivating the culture change within STEM one generation of strong female leaders at a time.