Chairman's Award - Team 1710

Print Close

2016 - Team 1710

Team Number

1710

Team Name, Corporate/University Sponsors

Clay Blair Family Foundation / Ewing Kauffman Foundation / US Engineering / Black & Veatch / EW Plumbing / Society of Women Engineers-Exxon Mobil Corporation / Farmers Insurance / Olathe Public Schools & Olathe Northwest High School

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2015/2016 year and the preceding two to five years

Our leaders teach communication and technical skills to our younger members to strengthen personal development and soft skills. We present at global conferences and mentor underserved students through our diversity-focused initiatives. 94% of alumni have joined STEM fields. Annually, our seniors are offered up to 2 million dollars in scholarships and multiple have received paid internships. Many of our alumni go on to prestigious universities like MIT, WPI, Columbia, and Cambridge.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2015/2016 year and the preceding two to five years

FIRST Team 1710's You Go Girl campaign has inspired nearly 11,000 girls to pursue STEM. Our team participates in Relay for Life, donating time and resources to the American Cancer Society. The Chamber of Commerce invited our team to present to 150 local business leaders about STEM education. By utilizing our FLL kits, we connect with at-risk students at Johnson County's Evening Reporting Center, a juvenile court alternative, with the hope to inspire them to engage in positive STEM activities.

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

We presented our You Go Girl program at FIRST Championships and the SWE National Conference. A team founder brought FIRST materials and "You Go Girl in a Box" to President Obama and his family. Our mentor met with the Governor last year to start a STEM Day at the Capitol. We will showcase the FLL, FTC, and FRC programs at the inaugural STEM Day as well as Introduce a Girl to Engineering Day. We were selected by FIRST to represent FRC in the Smithsonian's MathAlive! exhibit sponsored by Raytheon.

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

On FIRST Team 1710, we build more than robots, we build leaders. Our leaders empower members of our team to inspire future generations by modeling valued workplace skills of diligence, project management, and organization. Other teams have emulated our You Go Girl initiative and our safety program. We distribute our safety handbook and posters at competition and provide other teams access via our website. The nine FTC teams at Olathe Northwest have imitated our team structure and values.

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

Our Letter Writing Campaign has inspired the foundation of a team in Taiwan, FIRST Team 4253. We have received feedback from individuals in S. Korea, stating they'll start an FRC team soon. Our website includes information on how to get involved in FIRST programs. An alum helped to start FIRST Team 3928 in Iowa, another started FIRST Team 5052 in Texas, and a third is coaching FIRST Team 5968 in Manhattan, KS. Our team has helped start teams in the KC Area: FIRST Team 5268 and FIRST Team 5119.

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

Last year, we integrated eight FTC teams into the Aerospace and Engineering curriculum. This year, we introduced a ninth team for a senior capstone. Our coach presents at a Summer Conference each year about FIRST, inspiring the creation of FLL teams through $500 grants and free kits. This year, we held a presentation to start FLL Jr. and FLL teams, resulting in the creation of more. An alum started an FTC team in Washington this year, and we are developing an FTC team at Olathe East High School.

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

This year, we helped two KC teams with their Chairman's submissions. We started and mentor nine FTC teams. We have supplied multiple FLL teams with $500 grants and materials to start a team. With a grant, 24 FLL kits were purchased to host 30 camps and workshops at local schools. Each year, we bring our FLL camp to every second grader in Louisburg, KS. This year, we hosted a seminar for starting FLL Jr. teams. Annually, we host an FLL Qualifier, and assist with the FLL KC Regional Championships.

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)

We provide mentorship and supplies to 9 FTC teams. We guide new FLL Jr. and FLL teams by hosting a seminar for potential new coaches, and provided grants and kits. We guide teams such as Team 2725 who came to an FRC Regional with only a chassis by providing parts and resources to complete their bot and drive team. We helped teams with their programming. Last year at Champs, we donated wheels to FRC Team 5554. We provide financial aid and advice for FRC Teams 1723, 1763, 1984, 5119, and 5268.

Describe your Corporate/University Sponsors

Our finance team executes our self-sustaining business strategy, which includes locating sponsors. FIRST Team 1710's sponsors are the Clay Blair Foundation, Farmers Insurance, Black and Veatch, Optimist Club, Huhtamaki Van Leer, Honeywell, Mercedes Hydraulic Cylinder Repair, US Engineering, and Tyr Energy, among many others. These companies support the team through the donation of materials, finances, services, and mentors, supporting our mission to inspire the future generation toward STEM.

Describe the strength of your partnership with your sponsors with special emphasis on the 2015/2016 year and the preceding two to five years

FIRST Team 1710 engages its sponsors by extending invites to attend kick-off, team meetings, design review, and Showcase. We give back to them by providing camps for their outreach and volunteering at their events. We partner with our sponsors like KC STEM Alliance to host the FLL Qualifier, providing the needed volunteers, electrical supplies, and audio-visual livestreaming to run the event. To show our gratitude for our sponsors, we have devised a tiered sponsorship system.

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

FIRST (For Inspiration and Recognition of Science and Technology) is an opportunity for students to develop innovative solutions and gain knowledge in mechanical, electrical, programming, communication, graphics, and business through interacting with mentors, STEM activities, and building competitive robots. FIRST provides students with real-world and hands-on experience. Students in FIRST inspire youth to pursue STEM careers to create the next generation of science and technology leaders.

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

We received a $10,000 grant from the Women's Giving Circle to create our STEM Connection initiative. This multi-tiered STEM mentoring program brings high school, collegiate, and professional female STEM mentors together with Title I middle school girls through hands-on workshops including robotics, circuits, dissections, DNA extractions and more. Female interest in STEM is often lost in middle school; our goal is to maintain this appeal in girls transitioning from middle school to high school.

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

Saraya Bragg

Essay

Motivation and determination were just some of many virtues passed down from founders Matt Breitkreutz and Sue Rippe to FIRST Team 1710 in 2005. They saw a need to foster the development of science and engineering through a dynamic environment of mentorship, technical education, and engaging hands-on activities. An $18,000 grant provided by the Kauffman Foundation kickstarted their dream of inspiring the community to prioritize education through FIRST programs and ideals. Our unique approach to FIRST seeks to improve the future of STEM through our use of these Core Values: Commitment, Inspiration, Hands-On-Experience, Gracious Professionalism, Safety, and Student-Led/Student-Run.

Twelve business-inspired leadership positions on Team 1710 allow us to run a financially self-sustaining program, fully organized and led by our students. Our team is empowered to further our mission of inspiring future generations, using valued skills of commitment, project management, and organization. In order to construct our own atmosphere of learning and innovation, we consult with 31 mentors, including several FIRST Team 1710 alumni, from multiple organizations such as Honeywell, Rockwell Automation, the National Weather Service, Burns & McDonnell, Kiewit,

Cerner, Ultimaker, BE Aerospace, Hoefer Wysocki Architecture, the Douglas County Sheriff's Office, Archer Technologies, EN Engineering, as well as mentors from the FIRST organization.

We take safety seriously. Our award-winning safety program, Goof Proof, is incorporated into instructional safety videos, promotional buttons, t-shirts, slogans, posters, and activity books. Many materials feature our safety mascots, super heroes dedicated to teaching the importance of safety to younger students. To engage kids in the culture of safety, we created a Safety Trading Card Game. Hundreds of decks have been handed out at competitions. We update the game, adding expansion packs based on the current FRC challenge. Our Safety Activity Book, encouraging safe practices through fun activities, and our Safety Handbook are distributed at competitions. In 2015, we extended our safety program to a new facility, the Kansas City Engineering Zone, built to provide a location for robotics teams in underprivileged urban schools lacking the space, tools, and mentorship needed to maintain a successful team. All Team 1710 members are tested and approved by certified mentors to utilize on-site machinery, along with being trained in Workplace Safety, OSHA Compliance, first-aid, and certified in CPR.

Each year, our team embarks upon The Letter Writing Campaign to spread the mission of FIRST around the world. Team members have written 1,200+ letters which have traveled 765,000+ milesroughly equivalent to traveling around the earth 28 timesto businesses, individuals, and organizations, reaching more than 35 countries, including Kenya, Australia, and India. These efforts inspire others to engage with FIRST, spreading FIRST's message of innovation and creativity with hundreds of people worldwide, and has sparked the development of teams across the globe.

We were selected by FIRST to represent FRC in the Smithsonian's MathAlive! Robotics exhibit sponsored by Raytheon. We provided a half-scale model of our "Ultimate Ascent" robot, showcased in a tour of the Middle East, introducing FIRST programs to students around the globe who share our passion and aspire to be tomorrow's leaders in STEM.

In 2014, FIRST Team 1710 received a $5,000 grant from the Olathe Public Schools Foundation (OPSF). Team 1710 elected to use this grant to fund the creation of eight FTC teams. Because of this, Olathe Northwest's Aerospace and Engineering (A+E) program integrated FTC into the junior curriculum, where students learn leadership, programming, as well as mechanical and electrical skills. These teams focus on community outreach, showcasing FIRST programs to local elementary schools, Cub Scout Blue and Gold Banquets, and STEM Day at the Capitol. The successful integration of FTC throughout the A+E curriculum led to the addition of a ninth team for a Senior Capstone.

Grants from OPSF have allowed us to bring 1,000+ fifth grade students from low-income schools to the KC Regional, providing them with exposure and inspiration for STEM. Using money from OPSF and the Clay Blair Family Foundation, Team 1710 purchased 24 LEGO kits, and has used these to hold 30 FIRST camps and workshops designed to teach kids the fundamentals of engineering and innovation. Basic camps teach third through fifth grade children the engineering design process, exposing them to the world of STEM. In advanced camps, sixth through eighth grade students receive the basic training, and expand upon their previous experience, working with sensors, complex functions and developing programming skills . We held five robotics workshops at the library to introduce students to FIRST and STEM. We host FLL workshops for every second grade class in Louisburg, Kansas, inspiring 130+ students each year. In addition, using these FLL kits, 54 third graders at Meadow Lane Elementary learned about the seven simple machines through a workshop. Team 1710 is expanding this event to additional elementary schools in the area.

Essay - page 2

Team 1710 partners with the Johnson County Evening Reporting Center, a juvenile detention center offering an alternative to standard incarceration programs. Using FLL kits, Team 1710 grabs the interest of these at-risk youth, immersing them into an environment of learning and innovation. Every month, members provide these youth with tools which they can use to develop new skills in STEM. They participate in various 1710-designed activities, from obstacle courses to Sumo Bots. Throughout the event, these kids are continuously redesigning and reevaluating their design choices, building valuable skills in areas such as problem solving, critical thinking, and decision making. Team 1710 members enjoy a shared learning experience with these youth, and on several occasions have had the opportunity to connect on a personal level. Each event provides participants with inspiration, impacting their lives for the better and encouraging them to pursue STEM in the future.

This year marks the tenth anniversary of You Go Girl (YGG), an initiative started simply to encourage girls to join our team. Over the past five years, our team has taken more than 750 Girl Scouts and elementary school girls to the Greater Kansas City Regional, exposing them to opportunities for women in STEM fields and spreading FIRST enthusiasm. We design YGG marketing materials, such as t-shirts, posters, trading cards, postcards, buttons, slogans, and more to introduce girls to FIRST. Our trading cards and posters feature each of the young women on our team, how they have been impacted by YGG and FIRST, and information regarding the STEM field they will pursue. Last year, Sue Rippe, founder of Team 1710, was inducted into the National Teacher Hall of Fame. During the ceremony held at the

White House, she presented our "You Go Girl in a Box" to President Obama and his family. "You Go Girl in a Box" includes our own YGG marketing materials, designed to foster STEM aspiration in girls in a simple but effective manner. This tool will be available for other FIRST teams to start their own YGG programs. In addition, we presented the concepts of YGG at the 2015 FIRST Championships, addressing the underrepresentation of women in STEM fields and how we're working to solve it. Team 1710 has been asked to present at the Introduce a Girl to Engineering event hosted by the KC Chapter of the Society of Women Engineers (SWE). This event will host over 300 girls exploring the fundamentals of engineering through STEM career fairs and hands-on engineering activities. From its humble beginnings, the scope of the YGG mission has amplified globally, directly impacting 10,647 girls through workshops, camps, and presentations to ultimately change the face of STEM.

With the help of a $10,000 grant from the Women's Giving Circle, we created STEM Connection, a collaborative effort between multiple high schools and middle schools, to provide the environment necessary to cultivate confidence in young women and inspire them to pursue STEM fields. Quarterly, STEM Connection's multi-tiered system of "girls mentoring girls, mentoring girls, mentoring girls," brings 70+ high school, collegiate, and professional female mentors together with Title I middle school girls through hands-on workshops including robotics, electronics, dissections, DNA extractions, and more. Mentors from Cerner, Garmin, IBM, Honeywell, the University of Kansas, and the University of Missouri-Kansas City donate time and resources to the program. Recently, we were awarded a $19,000 STEM Mentoring Initiative Grant from the Kansas Volunteer Commission for the continuation and expansion of STEM Connection, to serve more girls in more grades. Thanks to the efforts of Carla Proulx of FIRST, representatives of Team 1710 hosted "Innovators on the Rise," a panel discussion at the 2015 SWE National Conference, promoting this outreach program as well as YGG. By giving the next generation of women the tools necessary to build their future, we here at Team 1710 build our own.

Eleven years after inception, our mission is still to inspire the next generation. Team 1710 is continuously developing new approaches to provide the world inspiration through our own unique programs. These include ERC visits, You Go Girl, STEM Connection, and the integration of FTC into our A+E curriculum. Our involvement with FLL Jr., FLL, and FTC contributes technical, leadership, and communication skills to team members and a diverse demographic of youth throughout the community and beyond. Team 1710's service and devotion to FIRST's ideals are revolutionizing perceptions of engineering locally and internationally. We build #morethanrobots, we build leaders.