

Chairman's Award - Team 5125

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2019 - Team 5125

Team Number

5125

Team Name, Corporate/University Sponsors

&Horizon Science Academy McKinley Park

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

We have become better public speakers, having directly spoken to 3,000+ people about our team and FIRST. We have become active members in our communities, having spent 1,200+ hours volunteering. We have become mentors, by inspiring 160+ students to pursue their passions through FIRST programs. FIRST has taught us to be dedicated leaders, team players, and inclusive of others, ultimately putting us on a path to ensure we can change our community and the world.

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

Our mission is to inspire whomever we meet to make a change in their community. By volunteering as counselors at the Kids of the Kingdom summer camp in Southside Chicago, hosting and volunteering at FIRST events, and assisting our school and local park district, we have become change makers. We host blood drives, run a CPR training program, and advocate for climate change. Through over 30 events, several of which we organize, we serve our community, making a positive impact on our city.

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

We have gone to over 40 events, from technology conferences to local schools, with a total audience reach of 385,000+. Whether to a 1-year old toddler or a Georgia Tech AI professor, we showcase FIRST through presentations, brochures, personalized talks, robot demos, a blog on our website, and even on social media, to our 475+ followers. We attend community meetings & partner with national organizations, allowing us to reach out to elected officials from Aldermen to presidential candidates.

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

Our "Buddy System" pairs rookies with veterans teaching rookies how to succeed as members, and veterans how to be responsible leaders. With 14 leadership positions for veterans and rookies, team members have strong ownership over all aspects of the team. Each full-team meeting, a different member hosts the meeting, starting with an inspirational quote, chosen to motivate others. We've created an environment that encourages leadership and inclusion by supporting one another.

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

At outreach events, we log interested students, parents, and teachers into our Mentorship contacts list. We also reach out via email and social media to FTC teams, schools, individuals, and organizations. We process all contacts through our three-tiered plan to hopefully form new teams. This past year we assisted in forming FRC teams 7608 and 7560. To introduce teams to FRC, we've published resources such as a build season guide and a kick-off/design guide.

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

To date, we have reached out to 18 schools in the south and west side of Chicago, such as Healy and Drake elementary schools, whom we are working to get funding for. We have sent emails, visited with administrators, set-up demos, and even invited students to our school. At our K-12 school, with 3rd & 4th-grade teachers, we successfully started and mentor 6 FLL Jr. teams. We also proposed a class to our principal, LEGO Robotics, which is now offered to 5th and 6th graders, to participate in FLL.

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

We ensure that our school has all *FIRST* programs so students can participate from 3rd to 12th grade, allowing their interests to flourish at a young age. Our members mentor the younger teams and are seen as role models to them. We hold FLL qualifiers, FTC league meets and tournaments, and FLL Jr Expos, all run by our members. At events, to inspire younger students, we demo our robot showing them the next steps in *FIRST*. We also offer our guidance directly to FTC teams hoping to progress to FRC.

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)

Every Tuesday, *FIRST* 5125 HOTH students visit the 3rd & 4th-grade classrooms to mentor their FLL Jr students. Three of our seniors take an additional 7th-period class, create lesson plans, and teach 21 students how to tackle FLL. For the past two years, we've visited 2 FRC rookie teams each year. We have ongoing video calls during every meeting in build season with 7608 to help them answer any question they have.

Describe your Corporate/University Sponsors

We have four primary corporate sponsors who provide us with financial aid. ECIA, an association which promotes and demonstrates new electronic components. Dart Foundation, the philanthropic arm of DART which manufactures foam cups and containers. One North Interactive, a digital interactive marketing agency. New Star, a leading manufacturer of quality driven luminaires.

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

One North has been with us since our first season. We visit their office annually to demonstrate how far we've progressed since our team's formation. We've also had a long five-year relationship with ECIA, demo-ing at their executive conference to many *FIRST* partners and sponsors who attend. We have even presented our lab to the CEO and CFO of New Star, our newest sponsor. We also recognize our sponsors by including their logo on our shirts, robot, and banner.

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

FIRST is an organization that engages students in STEM through building and competing with robots. It teaches them leadership, entrepreneurship, and life skills through four different programs for students 6 to 18 years old. *FIRST* gives students a platform to learn and gain new experiences while building a foundation to pursue their passions, whatever they may be. *FIRST* gives students the opportunity to make a difference.

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

45% without high school diplomas; 14% unemployed; \$12,524 average annual income; 22% undocumented. These statistics are our communities. Chicago is labeled as a war zone. Friends and families are taken from us. Negative stigma surrounds us. While this may shape us, it does not define us. We are volunteers, teachers, public speakers, innovators, and leaders. We refuse to become a statistic, rather we are the force to change it. Yes, our city has shaped us, but now we are shaping our city.

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

Carlos Perez

Essay

-Our City-

In a galaxy not so far away, lies Chicago, a place where skyscrapers touch the clouds and diversity spews from every corner of the city. But dark forces like gang violence, drug addiction, and poverty have flooded our beautiful city. According to Chicago Police, over the past 20 years, 33,000 teenagers have been arrested as gang members. The National Drug Early Warning System (NDEWS) indicates that in one month, 130,000 people, 3% of Chicago, will have used illicit drugs besides marijuana. Witnessing shootings on our street, seeing friends abuse narcotics, and living in poverty are a part of our lives. That is why we have become the rebellion to fight these dark forces. By providing opportunities for students, increasing access to better STEM jobs, and inspiring a culture of good citizenship, we seek to stop those forces.

-The Rebels-

FIRST 5125 Hawks On The Horizon was established in 2014 with just three 7th graders. It now includes 10% of the high school population; 37% are girls, and 81% identify with an ethnicity that is underrepresented in STEM. Our team is governed by our Rules and Limitations document that is annually revised. We are split into three branches: Technical, Competition, and Goals, each overseen by an Executive Director. Within those branches are subteams, each led by a Director who are elected by their peers. 48% of the team has leadership experience. We are truly student-led: students order parts, reserve hotels, and schedule meetings. To be well-rounded, everyone is required to be in a Technical, Competition, and Goals subteam. Our Buddy System pairs rookies with veterans, who guide them through their FIRST 5125 HOTH journey. Veterans are required to update their buddy, notify them of team meetings, and check up on them as they adjust to becoming part of the team.

-The Rebel Station: HSA McKinley Park-

Horizon Science Academy McKinley Park, our rebel station, is a Title I school that serves a student body of 89% low-income, 90%+ minorities, & 25% English Language Learners. Although forces of dark surround the students, our school has built a shield by offering numerous events like variety shows, choir and band concerts, International Dinner, end-of-year banquets, and Parent Thank You Dinners, events we proudly help setup and teardown for. Upon our music teacher's request, for school plays, we built a portable background scene, which made its debut in last year's Wizard of Oz performance. We play an integral role at our school, often being asked to be student ambassadors at high school fairs or to give tours to invited guests. FIRST 5125 HOTH is considered a sports team, walking in the Winter Pep Rally alongside basketball, attending the Sports Banquet where we hand out MVP awards and giving out Varsity Letters. HOTH members are founders and members of the Society of Hispanic Professional Engineers Jr. chapter, competitors in science fair competitions, and math tutors for other high schoolers. 100% of HOTH members have taken classes in the engineering pathway.

For the past two years, we've been renovating our lab, open to all at our school, with a \$20,000 grant from Concept Schools. The lab now features portable workbenches, new tabletop tools, and new hand tools. We've added a CAD area with two workstations next to a new 3D printer, and a Velox CNC Router, expanding our lab's capabilities.

We provide our lab and other resources to classes like Aerospace Engineering and Principles of Engineering, allowing students to get more hands-on. To complement the engineering pathway, team members have created two new classes: Introduction to Teaching Technology and Leadership in Technology. Introduction to Teaching Technology allows students to be Teacher Assistants, teach project-based STEAM, inspire younger students, and ultimately become mentors. In Leadership in Technology students turn team responsibilities into projects, learn to gather requirements, set and meet deadlines, and manage other peers. Students also choose topics to explore deeply like engaging youth in politics, learning to create a video game, and building a school vegetable garden. We've brought STEAM to younger grades with LEGO Robotics, a class for 5th & 6th graders, introducing students to FLL and project-based STEAM activities. In fact, we have built and maintain the full progression of FIRST programs at our school.

-Taking the Fight to Chicago-

With 1,200+ hours of community service, across 30 events, we have taken our fight into the city of Chicago. Since 2015, we've worked with the Chicago Park District to help run the Midnight Circus at McKinley Park, volunteering in admissions, concessions and breaking down. In the 3rd ward, with the Department of Streets & Sanitation, we attended "Clean and Green Day", where we LITERALLY cleaned the streets of Southside Chicago.

To adapt to emergencies and to provide support for natural disasters, we partnered with Red Cross. Last year, we ran our school's first blood drive, recruited about 100 people to donate, and provided 31 units of blood. We have made the blood drive an annual event, and plan to reach further into our community. To resolve emergency situations we've become trained as CPR instructors to educate our team members on CPR, First Aid, and AED. We're also offering training to school staff, other students and eventually the community-at-large.

We've partnered with SocialWorks, a youth empowerment organization founded by Chance the Rapper. For a week this summer, at Kids of the Kingdom, we taught 80 5 to 14 year-olds about STEM using EV3, WeDo, and FLL. We also volunteered in SocialWorks' My State of Mind program, an effort to provide better access to mental health.

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Our latest endeavor is with Citizens Climate Lobby, an organization that promotes climate change policy. We're reaching out to aldermen across the city to pass Resolution R2017-915, asking Congress to enact legislation to mitigate climate change. We've presented to the McKinley Park Development Council, asking for and receiving their endorsement. We're now working to convince 12th Ward Alderman Cardenas to ensure the resolution passes.

-Broadcasting Across the Galaxy-

We broadcast our signal, about FIRST and our team, through over 40 events that have had a total reach of 385,000+ people. We demo at large events like A Night of the Museum, hosted by SocialWorks at the Museum of Science and Industry, to 8,700 people and at small events like the McKinley Park Library Engineering Night to 20 students and parents.

We attended the Annual Conference for Rainbow PUSH, an organization founded by Reverend Jesse Jackson, where we presented to prominent members of the African American community. At the International Women Luncheon we presented to presidential candidate Hillary Clinton. We've demoed our robot to politicians such as Congressman Rush, Alderman Moore & Cook County President Preckwinkle at the Annual MLK Scholarship Breakfast. We spoke with Former Governor Rauner about the importance of FIRST and taught him to drive our robot. Our team has spoken to elected officials at every level of government about how we use FIRST to combat negativity in our city.

We've demoed at technology conferences like IMTS, SMTA and Pack EXPO. We became a media partner of GOTO, an international software developer conference. GOTO broadcasted our team to over 1,000 software developers in attendance, and more through social media. We also demoed at GOTO, speaking with many who were hopeful to get involved with FIRST.

HOTH is a household name within the walls of our school. We demo at countless events like STEM Night and Open House and have become a staple within our school's community. By broadcasting our blog, our team's website and multiple social media platforms to over 450 followers, we are expanding the rebellion.

-Expanding the Rebellion-

We have realized the need for a pipeline of rebels to continue FIRST 5125 HOTH. At our school, we run all four FIRST programs, from 3rd to 12th grades. There are 104 students, 13% of our school's population, in 13 FIRST teams. We go to 3rd and 4th-grade classrooms to mentor 6 FLL Jr teams. Through LEGO Robotics and Introduction to Teaching Technology, 3 of our seniors mentor 3 5th & 6th-grade FLL teams. We share our shop, our tools, and provide mentorship to 3 7th-12th grade FTC teams. Answering the need for Chicago events, we've hosted and run 7 official FIRST events, and volunteered at 14. This year we hosted 26 FTC teams at the Chicago South League tournament, 28 FLL teams at the Chicago South McKinley FLL Qualifier, and will host 16 FLL Jr teams for an Expo.

The rebellion extends beyond our school. We've started and mentored 2 FRC teams, 7560, Doodle Bots, and 7608, Owlentors. Every Thursday, we visit both teams to help solve any problems they have. Since last year we've mentored 6906, Reybots, and 7237, Unibots. We've assisted 7609, Half Bananas, with programming and 6958, CougarBots, with a build season guide in their rookie year.

The rebellion extends beyond borders. We've mentored FIRST Global team South America from Lima, Peru. Through weekly Skype sessions and emails we taught robot mechanisms and programming. We contributed to the FIRST Global community by providing a One-Page Game Description, and standardized Weekly Updates for other mentors helping the 150+ teams. Using our knowledge of FLL and FLL Jr, we are working to implement a summer camp in Nigeria.

-The Future of Our City-

We are rebelling for the future. Dark forces will always linger, but they do not, cannot control us. Instead of taking lives, we breathe life into the community. Instead of being addicted to drugs, we are addicted to inspiring others. Instead of living in poverty, we enrich the community by becoming leaders. Our city has shaped us, but now we are shaping our city.