

2015 Chairmans Essay

At Hatters Robotics, our mission is to positively impact our community and establish a legacy for generations to come. To accomplish this, we wear many HATS. HATS is a model representing the four values that distinguish and define our team. H for HELPING the FIRST community, A for ADVOCATING FIRST and STEM, T for TEACHING others what we have learned through FIRST, and S for SUSTAINING the strong bonds within our own team.

To HELP and give back to the FIRST community is our highest priority. Our students, mentors, and alumni have a passion for helping others. In 2012, we began hosting our annual FRC MAR District Competition at Hatboro-Horsham High School. We also run an FLL qualifying competition, which this year expanded to include Jr. FLL. Our competitions have become a model for FRC district and FLL qualifying events. We give advice and answer questions of other teams who host competitions and we volunteer at those events. Our team's contributions to local competitions go beyond the venues themselves, as we clean, prepare, and organize MAR's two fields prior to competition season. We have even stored an entire field in our facility for a build season. Last year, 18 students and mentors traveled to the FIRST Championship to volunteer as field personnel, pit admin, and safety glasses attendants. We also offered assistance, such as scouting, to local MAR friends. Hosting our two competitions and volunteering across the FIRST family of programs allow us to build ties to the greater FIRST community and expose a new generation to STEM.

At Hatters Robotics, we take Gracious Professionalism to heart by helping other FIRST teams on their road to success. We held a CAD session with Team 2607 where we demonstrated the advanced capabilities of Autodesk Inventor, increasing their proficiency with the software. We also taught Teams 341 and 1712 to safely operate machinery and welcomed them to our school to fabricate parts when they were unable to access their own shops. Our team manufactured integral components for Team 1712 and donated parts to Team 4575 after a fire destroyed their facility. Over the past two years, we have helped rookie Teams 5404 and 5181 establish themselves by providing material and carpet, inviting their mentors to come to our meetings, and showing their students around our pit at off-season competitions. One of our students created an FLL team building game that is featured as a resource on our website. At the end of each season, we post all of our code online for other teams to benefit.



As stated by one of our alumni, “for Team 708, helping is a reflex.” Not only do we make ourselves available to assist other FIRST teams, but our community as well. When we are asked to lend a hand, our whole team is eager to help, no matter the task. After a severe snowstorm, the American Red Cross opened a shelter in our high school’s gymnasium. Even though it was the middle of build season, our team helped break down the shelter when the weather improved. We also help other organizations within our school; for example, we folded tarps for color guard, cleaned tables for the art department, repaired a spot light for stage crew, and shared resources with the technology classes. Outside of robotics, we support each other in community service endeavors such as team members’ Boy Scout Eagle projects and Girl Scout Gold awards. In order to reconnect with our school, this year we rebranded our name and image to match that of Hatboro-Horsham which further associates Team 708 with the school and our peers.



In addition to striving to help others, we work to ADVOCATE FIRST and STEM. In spring 2014, we were honored to present our Aerial Assist robot at the State Capitol Building in Harrisburg, PA. In the Commonwealth Rotunda, we demonstrated our robot for senators, representatives, lobbyists, businessmen, school groups, and the general public. We advocated to our state’s leaders for FIRST and informed them of the impact robotics has had on each of us. We were introduced and recognized as Senator Stewart Greenleaf’s and Representative Todd Stevens’ guests

on the Senate and House Floors. They spoke about the merits of our team and the FIRST programs. In October 2013, members of our team spread the message of FIRST through a presentation to the Suburban Philadelphia Superintendent’s Council. In November 2014, we had the unique opportunity to host Dr. Woodie Flowers. Throughout the day he worked with Hatboro-Horsham students to develop their critical thinking skills, explore the engineering design process, and stress the importance of collaboration. He also met with district teachers to encourage them to explore the evolution of education and curriculum. That evening Dr. Flowers presented his ideas to improve education to approximately 500 community members.

Another goal is to extend our impact using social media such as Facebook, Twitter, YouTube, and Instagram. For example, our safety captain posts safety tips at least once a week. Our website, team708.org, advertises our upcoming events, promotes the values of FIRST, informs viewers about our team, and provides links to many valuable resources. We also post weekly videos of our build season progress so others can experience the exciting challenges FIRST provides.

Within our community, we demonstrate our robots at local events to spread the word of FIRST. Since 2011, over 275,000 people have been impacted by our outreach. In 2012, we showcased our Rebound Rumble robot at a Hatboro-Horsham basketball game where it shot baskets alongside our school's players. During the 2013 off-season, we built a t-shirt cannon that inspires our peers at school pep rallies and games. At Elbow Lane Day Camp, the Drexel Expo, Radnor Middle School, and Gilda's Club, we held demonstrations where we introduced attendees to the FIRST program. During the Hatboro Holiday Parade, we marched the robot down Main Street, displaying it for the entire community. Over the past few summers, our robot made appearances at both Hatboro's and Horsham's National Night Out as well as Hatboro's Moonlight Memories car show. At these events, we let children control the robot and are inspired by their joy and excitement. To our team, that's really what FIRST is all about: sparking curiosity and admiration for STEM in the hearts of others.

Another important value of Team 708 is to TEACH through hands-on learning while educating young people about STEM. We strive to make an impact in local schools by implementing the Hatboro-Horsham Robotics Program at the elementary, middle, and high school levels. In 2011, we founded three FLL teams at our middle school. Interest increased steadily and in 2014, we created a fourth team to accommodate the growth. Each team is mentored by our FRC members who enjoy working with the younger students



as they learn about the FLL program. Starting this spring, all five elementary schools will have a robotics program modeled after a Lego robot game. We also run an annual week-long robotics summer camp for second through eighth grade students with typical enrollment around 20. Our FRC students work with the campers to help build and program Lego robots. The campers participate in team building activities, drive the FRC robots, and are introduced to the FIRST programs. Our alumni continue to instill the culture of FIRST by mentoring teams around the country. This year, four of our alumni led seminars at the Upper Darby Kickoff, focusing on programming and college applications.

Everything our team represents and works hard to accomplish goes back to our final value, SUSTAIN. In order to initiate growth within our team, we speak to students and parents one-on-one about our school district's FIRST programs. We promote Hatters Robotics at freshman orientation and the school's activities fair. In addition, we have constructed the Hatboro-Horsham Robotics Program, which allows us to sustain the progression of programs FIRST offers. On our team, we invite hard-working eighth grade students from our FLL teams onto our FRC team. This allows students who have shown

dedication and passion for the program to transition into the next step of their FIRST journey. We open our program to students who are homeschooled or from school districts without an FRC team. As a result, our team is currently comprised of students from six different schools.

For the last eight years, Team 708 has partnered with the Hatboro-Horsham Educational Foundation (HHEF). This relationship has secured continued success for our team by allowing us to purchase capital equipment and buy Lego kits. HHEF also encourages local corporations to support our programs and has helped us obtain additional contacts, funding, and resources. Of our remaining partners, Lockheed Martin has been the most prominent by aiding with registration costs. Two of our most committed mentors are employed by Lockheed.



Our team is a diverse group that has created a unique culture which aids in member retention. Through team collaboration, a supportive, light-hearted family atmosphere is sustained and we feel pride for our accomplishments. At meetings, parents prepare home-cooked meals for us to enjoy together. We also have team building days where we play games and have fun reinforcing our strong family connection. Each year, we have a team picnic where we celebrate our season and our mentors present the graduates with their “college survival tool boxes”. All these activities nurture the friendships we form, help us grow as a team, and make robotics a second home.

We, as members of Hatters Robotics, are proud of our team and all we have accomplished in our 15-year history. In particular, we have come a long way over the past few years and are continually striving to heighten our impact and transform the culture. Whether we are HELPING FIRST, ADVOCATING STEM, or TEACHING the next generation, we SUSTAIN the efforts together, as a team.