

Chairman's Award - Team 272

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2018 - Team 272

Team Number

272

Team Name, Corporate/University Sponsors

Comcast NBCUniversal/Lockheed Martin/ASI Technologies/Lansdale Cannoneers Sportsman Club/ICON Clinical Research PLC./SolidWorks/SCTE Foundation/Remington & Vernick Engineers&Lansdale Catholic 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

Students that advance through our program are equipped with knowledge and skills passed on by industry professionals and peers. As a Cyber Crusader, students are empowered to make goals and are given the strength and support to achieve them. Our student run team provides students with real-world experience in leadership, responsibility, and critical thinking. More than 80% of Cyber Crusaders earn degrees in STEM fields and are 23% more likely than their peers at LCHS to earn a graduate degree.

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

Team 272 is very active in our school and the surrounding community. We are the cornerstone of the STEM program in our school and partner with the administration to promote STEM education. Because of our influence, our school added an Introduction to Engineering and Java C++ class to the curriculum. We also participate every year as a team in the Juvenile Diabetes Research Foundation Walk. Our school initiated this tradition in honor of a former teacher at Lansdale Catholic.

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

The team has increased FIRST's visibility by holding demonstrations during local and corporate events as well as to the broader Philadelphia area. FRC Team 272 runs a FLL Summer Camp for students aged 9-13. The camp inspires students to pursue STEM education, teach them about FIRST, and help them develop critical thinking, team building and public speaking skills.

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

Cyber Crusaders are called to be role models and leaders for their classmates. Experienced students are put into leadership roles and are empowered to take responsibility for various parts of the team mission. Students uphold the ideals of FIRST and encourage Coopertition. Our team can be seen giving awards to other teams or individuals that have displayed outstanding values. Students and mentors alike are eager to volunteer at offseason or district events.

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

In 2014-2015 we helped FRC team 5404 get started by recruiting experienced mentors and petitioning the school board for support. A few of our students attended summer sessions held by team 5404 to speak about their FIRST experience and describe what it is to be a FIRST team member. Throughout their first season we were there to help guide them in any way we could.

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

The Cyber Crusaders mentors, alumni, and students have founded and coached 37 FLL teams since the FLL pilot in 1998 including 9 new FLL teams, in addition to 9 FLL Jr teams this past fall. Teams were made up of approximately 120 1st-8th grade students from 3 local grades schools that didn't have previous programs. We formed an FTC team, FTC 14133, to compete in the fall of 2018.

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

Cyber Crusaders are very active in the FIRST Mid-Atlantic Robotics District with mentors serving on FMA committees. Students and adults alike, volunteer at FMA District and offseason events. Doing these things ensures all teams in FMA are able to compete and helps toward a successful season. Our annual FLL Tune Up event, invites up to 48 FLL teams to compete giving teams a chance to practice in a competition setting as well as receive robot design, programming and project feedback.

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)

This past December, the team co-hosted its annual FIRST Robotics Boot Camp with Comcast in Philadelphia. Over 250 FRC team members attended seminars on robot design, programming, business planning, and other presentations. These were given by FRC Team 272 mentors, Comcast employees and invited mentors from other FMA veteran teams. This is a great forum for new team members to ask questions and receive guidance and a chance for veteran team members to share experiences and knowledge.

Describe your Corporate/University Sponsors

We have 6 major sponsors consisting of a large multimedia and communications company, 2 engineering firms, a global healthcare company, a clinical research company and a local non-profit youth organization. We have 15 community partners that contribute to our fundraisers, donate robot and game pieces, and/or give small monetary donations. Our largest sponsor is our high school, who gives us workspaces, a venue for fundraisers, as well as funding.

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

Team 272 has forged very strong and collaborative bonds with our sponsors. We hold demonstrations at each of our major sponsors facilities and share in our successes by giving our sponsors awards won during the competition season. We also interact and recognize sponsors with our newsletter, social media, and team events. The team has an especially dynamic relationship with Comcast NBC Universal with whom we co-host a FIRST Boot Camp and other events throughout the year.

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

FIRST is a family of four programs whose mission is to inspire K-12th grade students to pursue education and careers in STEM fields. Students learn to collaborate with their peers while being mentored/coached by industry professionals to complete a prescribed task. Everything is done with gracious professionalism in mind, and students establish their problem solving, leadership and communication skills. FIRST programs create tomorrow's leaders and innovators.

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

Over the last 2 years, the team has worked tirelessly to include other areas of focus for team members. With targeted recruitment efforts, our business and media team has recruited 6 underclassmen ensuring sustainability for these groups. We have more than doubled our outreach efforts, completing more demonstrations in our community and to the broader Philadelphia area. This year we partnered with our school to create a dedicated STEM suite, where we store all our tools and materials.

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

Meghan O'Gara

Essay

For 21 years, Lansdale Catholic Robotics FRC Team 272 has been providing STEM experiences to students with a focus on engineering, programming, outreach, fundraising and business planning. We hail from a small private school with just over 700 students and are led by experienced mentors who guide our students in areas such as problem solving, advanced engineering concepts, teamwork, and public speaking.

We open our membership to anyone attending our school as well as any 8th graders who have a passion and drive for STEM. Our students are given the tools to learn, regardless of financial standing as we have no membership fees to join the team. Students only need to participate in 2 team fundraisers and attend 10 hours a week during build season.

It is not uncommon to see 272 team members volunteering at off-season and Mid-Atlantic Robotics District competitions. For the past four seasons, the team has scheduled our competition season around volunteering at the week one event at Hatboro Horsham High School. This season, more than 40 of our student team members, parents, mentors and alumni are registered to volunteer for roles including, volunteer coordinators, judges, robot inspectors, pit admin, field reset, and game announcing at Hatboro Horsham and at the week three event at Springside Chestnut Hill. Two of our mentors also volunteer as Event Coordinator and Event Manager at the FIRST Mid-Atlantic District Championship. Last June, Team 272 students and mentors volunteered to help clean the FIRST Mid-Atlantic competition fields in preparation of the offseason events.

Since our inception, 272 has been committed to promoting FIRST and creating different avenues for the team to have a lasting impact on the local community. One major contribution that the team makes to the FRC community is our annual FIRST Boot Camp. The Cyber Crusaders have been proud to host this exciting event for the last ten years where teams gather at the Comcast corporate headquarters in Philadelphia. We invited experienced FRC mentors and students from veteran teams as well as Comcast employees to share their knowledge. This year over 26 teams from 4 states participated in seminars on topics including robot design, programming, business planning and safety. In addition to several sessions being led by Team 272 mentors, one of our sophomore team members led a well attended seminar on the use of LiDAR sensors.

This past fall, we hosted our 20th annual FLL Tune Up event, the first competition of its kind which continues to serve as a model for other scrimmages in the area. Since its inception, over 6,500 students have participated in this event where FLL teams gain experience running their robot in a competition setting and participate in judging panels, receiving feedback on robot design, programming and project. This past year, 45 FLL teams participated, quite a long way since the first event when 6 teams attended. New this year, we hosted nine FLL Jr. teams at the Tune Up event. All teams attending the event this year were asked to participate in our Card Drive for the Troops, which is a new service project for us. We collected over a hundred cards to send to the Walter Reed Army Medical Center with messages of support, gratitude and well wishes for the holidays.

Since 2014, the Cyber Crusaders have run an annual FLL summer camp for children in the community. The week long day camp invites children aged 9-13 to have a full FIRST experience. Seventeen FRC students were camp counselors leading teams of campers during the week. Attendance at our camp has more than tripled since our first year when eight children attended. This coming summer, we are planning on holding two sessions of summer camp to bring FIRST to even more local children.

Our commitment to the growth of FIRST programs expanded this year. We went from mentoring one FLL team, to forming a full FIRST Robotics program at our school. In the spring of 2017, Team 272 along with the LC administration petitioned three local grade schools to partner with us to offer FIRST programs to their students. This resulted in nine new FLL teams and nine new FLL Jr. teams bringing FIRST to approximately 120 1st through 8th grade students. To ensure the success of the new program FRC 272 mentors and students were on hand to guide the teams throughout their season. An LC mentor was the administrator for all the teams, other mentors were on hand to guide teams in robot design, programming, core values and project. Each team was coached by an FRC 272 student. In fact, two of our teams qualified for the Penn FLL Championship. Since our FLL Jr. and FLL expansion was so successful, we are currently forming an FTC program, the Lansdale Catholic Robotics Jr. Crusaders, FTC 14133, for 7th and 8th grade students set to begin in the fall of 2018.

To spread FIRST's message, the Cyber Crusaders hold several demonstrations throughout the year. Over the summer, 272 held demonstrations at the Saint Stanislaus Parish Summer Fair, the Cannoneer's Community Picnic, Penn State University, and GSK Summer Picnic, to name a few. We also participated in the SCTE convention at the Philadelphia Convention Center in the fall of 2016.

At the end of each build season we hold Brunch with the Bot. At this event we invite our families, sponsors and potential incoming students from the local feeder schools, to see our robot, hear about our FIRST programs, and have an opportunity to drive our robot. This year's brunch also included our FLL and FLL Jr. teams.

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For the last ten years, 272 has organized Take your Child to Work Day demonstrations at Comcast. Based on our successes at Comcast, we expanded our participation in Take Your Child to Work Day with events at GlaxoSmithKline's three Philadelphia area sites over the last three years. This year, we invited other local FRC teams to assist with Take Your Child to Work Day. Through these efforts, we have been able to secure GSK sponsorship for our team as well as other FIRST Mid Atlantic district teams.

Cyber Crusaders demonstrate commitment to our school and surrounding community, as the flagship STEM organization of Lansdale Catholic. To demonstrate their continued support, the school dedicated an area for our team to store materials and work. To promote our visibility, our blue banners and trophies are proudly displayed throughout our school. Our school honors team members by awarding varsity letters to students that competed in two seasons. Lansdale Catholic High School and the Cyber Crusaders work so closely together that FIRST is used as a recruitment tool. Over half of our student team members attended LC to participate in our robotics program, including one of our international students who came to LC specifically for our robotics program.

It is important for us to participate in our school's service projects as a team. For the past eight years, we raised money and walked as a team in the Juvenile Diabetes Research Foundation Walk, in memory of a former LC teacher, Mr. McGovern, . This year we raised over \$700 for this great cause.

Over the last four seasons we have expanded our social media presence, including Twitter, Facebook, and Instagram. We also started a video blog for the build and competition season which is posted on our YouTube Channel each week. This year, our media team created the FIRST Mid-Atlantic rebrand video used for district fundraising and sponsor outreach. We continue to invest and improve our online presence by revamping our website as well as streamlining our business plan. We created a quarterly newsletter we plan to share with our local community as well as sponsors.

Our team is committed to safety. We ensure all of our students are trained on the proper use of all of our tools. We brought in a certified CPR instructor and trained all of our students and mentors on CPR, AED and basic First Aid. We plan on making this part of our safety routine by scheduling training every two years. The training will be open to all of our members and mentors on our FLL Jr, FLL, FTC and FRC teams.

Our Parents Association, now in its 3rd year, help with coordinating travel logistics, providing lunches during team meetings and managing fundraising events. In the fall of 2017, the team hosted our 3rd annual Trivia Night. This lucrative event invited people in the community to share a fun evening together while learning more about our robotics program. The FLL Tune Up Competition is a very successful fundraiser for the team with student team members volunteering in various roles. The last three seasons, the team has done an additional fundraiser, a Burger Night, sponsored by the Lansdale Cannoneers Sportsmen's Club. The total from all these fundraisers made up over 30% of our total budget for the 2018 season.

Lansdale Catholic Robotics doesn't just build robots, we build family and futures. We have generations of members and mentors that share laughs and tears, celebrate successes and overcome adversities. The bond of 272 doesn't stop at graduation. Our alumni have gone on to mentor FIRST teams across the country, including three alumni mentors on our team. Over 80% of FRC Team 272 students pursue and complete undergraduate degrees in STEM related fields. Also, 272 students are 23% more likely to pursue and complete graduate degrees as compared to our school as a whole. When students graduate we are fully confident they have the tools to become effective leaders and valuable team members in all their future endeavours. For the last 20 years LC Robotics has been finding a way or making one. For the next 20 years, we will be dedicated to making it loud!