

FIRST Impact Award - Team 4585

2025 - Team 4585
Team Number
4585
Team Nickname
Husky Robotics
Team Location
Midvale, UT - USA
Describe the impact of the <i>FIRST</i> program on team participants within the last 3 years. Think about percentages of those graduating high school, attending college, in STEM careers, leadership skills, and serving as mentors/sponsors in <i>FIRST</i> programs.
In the past three years, our team had a graduation rate of 100% compared with Hillcrest's graduation rate of 84%. Multiple alumni are in the honors college at U of U. Alumni continue FIRST involvement by mentoring in CAD, mechanics, and control systems and volunteering at FIRST events. They are pursuing careers but find time to return because they recognize it changes lives. Our members say robotics has helped them become more confident, communicate more effectively, and become better leaders.
Describe your community along with its unique opportunities and circumstances. Think about your geographic region, diversity of town/school, language barriers, socioeconomic barriers, and cultural expectations.
37% of Hillcrest students are low income; 4/7 of our feeder elementaries are Title One; Midvale poverty rate is 11%. This gives an opportunity to reach underserved youth in our community. To remove financial barriers, we charge no fees. 28% of our school and 18% of our city are Hispanic; we publish everything in Spanish and have Spanish-speaking mentors. Math and science proficiencies at our school are 30% and 41%; only 24% of our city holds a bachelor's degree. We aim to change these numbers.
Describe the team's methods, with emphasis on the past 3 years, for spreading the <i>FIRST</i> Mission in ways that are effective, scalable, sustainable, and creative.
To foster an early interest in STEM, we judge science fairs, run booths at STEM Fests advertising FIRST, mentor FLL teams at feeder middle schools, and visit elementary schools to showcase STEM fun. We run robotics summer camps for 1st-8th graders. We run a weekly STEM lesson at Primary Children's Hospital which is both in-person and live broadcast to patients' rooms. Within Hillcrest, we run booths promoting STEM at school events and garner excitement with our T-shirt cannon at home games.
Describe your team's goals and the progress you have made towards them to fulfill <i>FIRST's</i> Vision.
"Creating a permanent and visible presence in our community." Our team's mission drives everything we do. As a financially limited team, we focus outreach efforts on our local community. We create opportunities to engage our community in STEM using resources we already have. Robotics gives participants technical skills for future career success and also the interpersonal skills needed to succeed in life. We want to communicate how life-changing FIRST is to not only students but entire families.

What impact has your team seen from your efforts described in the above question? How does your team measure impact?
We measure impact by tracking the number of people we engage with at outreach events, by the amount of financial or in-kind support pledged after presenting to legislators and by the graduation rate of our members. Last year, we participated in our city’s annual parade and festival. Approximately 1000 people watched our robot in the parade and over 140 visited our booth and had the opportunity to drive a robot. For some programs, we use pre- and post-surveys to measure the impact on individuals.
Please provide specific examples of how your team and team members act as role models within the <i>FIRST</i> community with emphasis on the past 3 years. How do you share these best practices with other teams?
We strive to embody the spirit of our cheer: “Huskies Jump! How High?” When asked to do something, we dedicate our all to making it happen. We frequently work with UT FIRST to advocate for STEM and FIRST, including supporting a presentation to representatives from FIRST Headquarters on the possibility of UT as the FIRST World Championship host city. At competitions, our team members are in the spirit pit cheering on teams to foster the excitement central to FIRST events, even when not competing.
Describe your team's initiatives to Assist, Mentor, and/or Start other <i>FIRST</i> teams with emphasis on activities within the past 3 years.
We started and mentored three FTC teams, starting in 2015. We are currently working to transfer these teams to school classes to reach students who are unavailable after school. In 2020, we started two FLL teams at the Palmer Court long-term homeless shelter which we mentored through 2023. We reached 20 children, creating new opportunities to break cycles of poverty. Last year, we began to mentor two rookie FLL teams at a feeder middle school. Our labs and materials are available for any team.
What other initiatives have you created, grown, sustained, or participated in (<i>FIRST</i> or otherwise) to help inspire young people to be science and technology leaders and innovators? What outcomes have you seen from your efforts in the past 3 years?
Last fall, we participated in Inspiring Girls in STEM Day run by Utah SWENext. At the event, our students ran a booth where we showcased one of our FTC robots, introduced speakers, and assisted in the speed mentoring sessions. We run annual summer camps for elementary and middle school children, where they design, build, and program their own robot in teams to compete in a custom game. Team members act as counselors for each of the student teams; typically, we have a 1:1 counselor student ratio.
Describe the partnerships and relationships that you've created with other organizations (teams, sponsors, educational institutions, government, philanthropic entities, etc.) and what you have accomplished together, with emphasis on the past 3 years.
We partner with Key Club to run a fundraiser for a Costa Rican orphanage. Last year, we raised over 360,000 Colones. We are currently working with our school district and UofU LEADD to start and run a robotics program for people with disabilities. We are working with Hope Squad to spread mental health awareness. This winter, we will be attending a conference for high school members in Salt Lake County. Our end goal is establishing communication between FIRST and Hope Squad at a global level.
Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, <i>FIRST</i>, and your communities.
Our community is naturally diverse. As discussed previously, we remove financial barriers for participation and provide information in Spanish. We are working to remove the stereotypes around robotics through an “I am Robotics” poster campaign in our school showing team members engaged in their other interests: football, ballet, theater, band, and more. We hope this will show students that robotics is not “just for nerds” and attract students who otherwise might not see themselves in STEM.

Explain how you ensure your team and the initiatives you have created will be sustainable.	
To prevent the loss of valuable information, we maintain both a day-by-day engineering journal and documents detailing problems we have encountered and lessons we have learned. For example, our programming team maintains an Error Log where they record errors found and the solution. We train our members in the offseason by working on our spirit robot, designing a shooter for a hypothetical game, and writing grants. We encourage all of our graduated alumni to return to mentor the team.	
Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.	
Previously our student leadership structure had numerous positions. This system was inefficient due to the difficulty in coordinating between positions. To remedy this, we reorganized our leadership structure to have three directors, each of whom heads a different department: engineering, operations, and performance. Each director has the authority to delegate projects to dedicated project managers. By doing this, we streamlined the communication process to manage tasks more efficiently.	
Briefly describe other matters of interest to the <i>FIRST</i> Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique, particularly noteworthy, or had a large impact.	
Our team increases STEM and FIRST access by working with our local government. We spoke with the Salt Lake County Council about the FIRST program and its impact. As a direct result of this, \$150,000 was donated to UT FIRST and free use of the county’s premiere event center was offered for the UT Regional. We also attended the Robots on the Rotunda event at the Utah State Capitol, where we spoke with State Senator Kathleen Riebe and representatives from our school district.	
Judge Feedback	
	What additional information would help you better understand our team and initiatives? An area the team has an opportunity to improve. Something that really impressed the judges.
Essay	
We are team 4585 Husky Robotics from Midvale, Utah. Our team mission is “Building a permanent and visible presence in our community.” We strive to spread awareness of and opportunities in STEM and FIRST to our entire community, regardless of background. Our mission is just one example of our core values, which are also embodied in our cheer: “Huskies jump! How high?” When asked to do something, we try our hardest to go above and beyond what is expected of us. The final pillar of our team is our motto: “Non satis prope est” (close isn’t good enough). This sentiment drives us to always do our best work and to not settle for anything less. Together, these three principles create the framework for who we are, both as a team and as individuals. Our team culture ensures all team members are empowered to learn sustainable skills for the work environment, giving students the ability to explore the foundations of STEM-related occupations. We focus on progressing as a student-led effort and enhancing students’ critical thinking abilities. Our primary goal is helping participants learn and grow as human beings. This sometimes means our robots are not as well built as we would wish. Although it can be difficult, these “failures” ultimately help us improve. We allow ourselves to fail quickly and often, in order to succeed sooner. Childhood experiences are a vital part of STEM identity. In order to promote STEM interest, our team works to support and run events specifically focused on young people. For example, since 2017, we have run an annual robotics summer camp for elementary and middle school students. In this camp, students work in teams to design, build, and program their own robots while being mentored by team members. At the end of camp, students use their robots to compete in a custom	

game. We also support STEM events in our community. We showcase our robots at events at our feeder schools. For these events, we make sure to bring smaller robots which students can drive, making events more interactive. We have formed a partnership with one of our feeder elementary school's science fairs. The fair often lacks sufficient judges, much less judges with STEM experience. Our team now volunteers whenever necessary to make sure the event can be successful. We hope to create a similar partnership with our district fair. One of our team's primary goals is to make meaningful STEM education available to everyone, regardless of their background. Our community is naturally diverse, with large minority and low-income populations. In our own team, we charge no fees to join or travel and publish all of our team materials in both English and Spanish. We partnered with the Learning Branch Foundation to start and mentor two FLL teams, one Challenge and one Explore, at the Palmer Court long-term homeless shelter. Through this program, we were able to create opportunities for children who otherwise would have very little access to quality STEM education, giving participants new confidence in themselves and their abilities. We are also working with Canyons School District and the LEADD program at the University of Utah to start robotics programs for students and adults with disabilities. Teams in this program will design, build, and program robots for previous FLL games while being mentored by members of local FIRST teams. Our intention is for program participants to better understand the technology they interact with in their everyday lives, while gaining confidence in their personal STEM abilities and learning FIRST core values. We also supported UT SWENext's Inspiring Girls in STEM Day. We ran a booth at the event where we showcased one of our past FTC robots, and team members volunteered to introduce speakers and assist in speed mentoring sessions. We are also partnering with Primary Children's Hospital and their Seacrest Studios to give weekly interactive STEM and engineering lessons. We prepare and present the lessons which are broadcast throughout the hospital; patients can participate by joining us in the studio or having materials brought to their room. To increase awareness of our team and available FIRST programs, we make sure to be an active part of community events. Within our school, we attend the annual Club Rush and Husky Fair, where we showcase our robots and run a booth with more information about our team. We bring our T-shirt cannon robot to football games, assemblies, and other spirit events. The chance to win a prize draws extra attention to our cause and makes many students curious. This year, we began visiting some of the STEM-related classes to tell students about our team and how it relates to the classes they are taking. We talked to three classes, reaching 90 students. To reach our greater community, we participate in the annual Harvest Days Festival. Last year, we walked in the parade and ran a booth where people could learn more about our team and drive a robot. During the parade, a brief explanation of our team was broadcasted over loudspeakers. We not only want to inspire people, we endeavor to start and assist FIRST teams. At competitions, our team is proactive in aiding any team in need. Last year, we mentored two rookie FLL teams at Union Middle School, where 37% of the students are economically disadvantaged. We have run the annual Canyons School District's FLL Qualifier for over 10 years. The event has been located at our labs for the last three years. This year's qualifier was attended by 28 teams from the Salt Lake Valley and beyond. Our team members volunteered as team hosts, field resetters, photographers, referees, and more. We run the Utah FTC and FRC Kickoffs, where we often invite teams to run workshops. We hosted the 2024 FTC Utah State Championships, where team members also volunteered. We are always willing to share our space, resources, and knowledge with our fellow FIRST teams. FTC teams 21765 Overclocked and 19697 SOUP regularly came to practice on our field, where we were able to help them work through some of their problems. We also started and mentored three FTC teams in our labs, with whom we continually collaborated. This fall, we were invited by our RD to speak with representatives from FIRST HQ about the possibility of hosting Championships in SLC. We demonstrated our robot and enjoyed an informal lunch discussion about FIRST and its impact on us. Beyond interacting with the general public, we work directly with local policymakers to enact change. We attended the Robots on the Rotunda event at the Utah State Capitol to promote STEM education and FIRST. At the event, we were able to speak with state senator Kathleen A. Riebe about our robot and how FIRST has impacted us. We also spoke with representatives from our school district and FIRST. We presented to the Salt Lake County Council with another local FRC team about our personal experiences with FIRST and how it has helped us grow. As a direct result of this presentation, \$150,000 was donated to UT FIRST and the county offered free use of their premier event center for the UT FRC Regional. We regularly interact with the Mayor of Midvale. Last spring, we invited the mayor to our labs, where we showed him our robot and explained what we do. This year, the mayor accepted our invitation to attend the UT FRC Regional. In addition to our STEM outreach, we give back to our local and global communities. We partner with the Hillcrest Key Club chapter to run a fundraiser for a small orphanage in Costa Rica. Last year, we raised over

360,000 Colones, which went towards updating and repairing appliances. We began work with Utah Hope Squad to promote mental health awareness and suicide prevention. This February, we will present at a conference for high school Hope Squad members in Salt Lake County. At this event, we hope to connect Hope Squad and FIRST allowing the organizations to help spread each other's message. We are working with Dr. Greg Hudnall, the founder of Hope Squad, and FIRST to foster a global partnership. We are compiling information on mental help providers from across the globe. We plan to organize this data on our website so people can get the mental health help they need, regardless of where they live. In our 13 years, we have inspired our community and promoted STEAM and FIRST awareness at every event we attend. We spread Gracious Professionalism and Coopertition through our core principles and goals. The members of our team represent a diversity of cultures, values, and passions; when we come together, the result is a cohesive team of students excited to engage in all aspects of life. ;

