

Ethan: My Name is Ethan

Abby: My Name is Abby

George: My Name is George

ALL: And we are team 4611 Ozone Robotics.

Ethan: We are from Delaware County, Ohio comprised of Students from the Olentangy local school district. Our team motto, Onward & Upward, is a core value of our team, and we are striving to live up to that motto throughout our community.

Abby: When we saw that our community lacked STEM opportunities for middle schoolers, we decided to change that by establishing a FIRST pipeline from FTC to FRC.

Ethan: We founded our 1st FTC in 2021, composed of only 8th graders, then we expanded to 2 teams of 7th and 8th graders, and then to 3 teams across grades 6 through 8, and we even made sure to start our first all-girls team as 1 of the 3 teams. We now support 6 FTC teams of 6th, 7th, and 8th graders, including 2 all-girls teams, providing 48 students the opportunity to learn to design, build, and program robots.

Abby: We recognized that women and girls were underrepresented in both the STEM community and in our own Ozone FRC program, which is why we started our first all-girls FTC team in 2024, Ozone X, and we increased to 2 all-girls FTC teams this year, Ozone Yellow and Ozone Purple. We wanted to provide middle school girls in the Olentangy school district an opportunity to find their passion for STEM and robotics. We even recruited additional female mentors for our all-girls teams, thus reinforcing the importance of having women represented in STEM and robotics. Last year, I was a member of Ozone X and the opportunities it presented me led me to not only discover a STEM field I love, programming, but also motivated me to join Ozone's FRC team this year. But that experience is not limited to just me. Ever since Ozone founded our all-girls FTC teams and made a more conscious effort to include more women in STEM, we've seen female participation grow by 50% over the last 3 years and active membership of our female members increased from 5% of our team last year to 20% of our team this year.

Ethan: This FTC to FRC pipeline of students has helped our team tremendously with student engagement and participation, increasing our membership by 22% from last year to this year, and 1 out of every 4 students on our team was a member of one of our FTC teams.

George: As we've grown our FTC footprint, we have also grown as volunteers. Two of our FRC & FTC mentors, who also coach another central Ohio FTC team organize the Central Ohio FTC League. Since last year, we have quadrupled our volunteer involvement helping out at all 5 league meets contributing collectively 250 hours of volunteering at events. Our members volunteered as event set-up personnel, robot inspectors, score keepers, emcee, field reset personnel, and we had 2 additional mentors who served as judges at the league championship.

Ethan: I have personally been volunteering at central Ohio FTC league events for 3 years and I have always felt it was important to give back to the FIRST community that has provided me so many opportunities. Team Ozone helps nurture friendships that go beyond robotics, and so we recruited more of our members to have fun together while giving back to the FIRST community by volunteering at FTC events.

Abby: I also began volunteering at FTC events this year, and it feels really good to give back, especially to the FTC central Ohio league and the teams, who provided so much support to our all-girls team last year.

Ethan: Out of our 6 FTC teams, 4 of them were mentored mainly by an FRC member. I mentored Ozone Orange, George mentored Ozone Red, and Abby helped several teams with code this season.

George: As one of the 4 FTC team mentors, the best part of mentoring the only FTC team was made up of only 6th graders, was their thirst for knowledge that they possessed. Teaching them how to CAD and seeing their multiple iterations of 3-D printed parts throughout the competition season, and their coding skills are beyond my wildest expectations. My team even advanced to the State Championship this season, so I can confirm that the future of our FRC team is definitely moving onward and upward.

Ethan: We've also made waves in our inclusion of Elementary School students as well as we've interacted with students for the past 2 years at Oak Creek Elementary, presenting to more than 200 students about robotics and STEM.

George: Our presentations at Oak Creek are a building block for these students. Seeing the lack of STEM opportunities to many young students, we've provided the opportunity for their first interactions with a robot and taught principles of engineering. With the STEM Curriculum becoming prevalent across Ohio, showing these students a robot helped provide real life examples of a robot's capabilities.

Ethan: When we advanced to Worlds in 2024 and 2025, we gained access to a much wider audience through newspaper articles, like the Delaware Gazette (reaching 8,000 subscription holders), local news coverage on WSYX ABC 6 (reaching million viewers), international coverage like being featured in Innovation Insider Magazine coverage (reach is in the thousands), and like when George did that radio show interview on 96.7 (reaching 150,000 listeners). In all those appearances and us marching in the 4th of July parade (reaching 2,500 spectators), we have reached close to 2.2 million people with our FIRST mission.

George: And after we made it to Worlds 2 years in a row, other teams are watching us on social media. This season, we released two prototyping videos on social media, and we had over 1 million views. We also get a lot of reach through our GitHub code releases too with hundreds accessing our public code.

Ethan: Another one of our marquee local events has been our Districts State of the Schools presentation, where we present to our community, providing information about our program, volunteer opportunities, and opportunities for students to drive and learn about our robot.

George: These events allow us to interact with district officials, local leaders, students, parents, and our broader community. We have interacted with approximately 100 community members each year at the state of the schools event for the past 2 years. This year, we spoke to our superintendent, school board members, and principals, as well as many involved community members and parents, helping to spread the message of FIRST values and what this program means to us. I really had fun watching our Superintendent drive our 2023 robot, Toaster.

Ethan: Oh, that was fun to see, but my favorite part of of state of the schools is getting to teach the elementary students about the different mechanisms on the robot, and the kids love to learn about the swerve drive.

George: I enjoyed that part too. It makes sense why that is your favorite part, especially since Ozone has been increasing our reach to elementary and middle school students through our most successful event that we founded in 2023, Camp Ozone.

Ethan: Camp Ozone brings k-8 students together each year to participate in STEM Activities such as coding, engineering, circuitry and more. Students are put in a low risk environment allowing them to be curious and explore STEM at their own pace.

George: In the past 3 years we've had 418 students participate in Camp Ozone, with more students attending each year. At this camp, we've hosted students from all 6 middle schools and all 17 elementary schools in our district, expanding our STEM and FIRST reach throughout the greater Lewis Center and Powell, Ohio area

Ethan: All the work we've done to boost our STEM outreach and increase our team's female footprint, we've also expanded our outreach towards girls.

Abby: We've run badge training sessions for two different girl scout troops, helping 40 girl scouts earn their robotics badge. These training sessions introduce the girls to both STEM and robotics. This past February, we partnered with our all girls FTC team, Ozone Yellow, for one of these training sessions to help show these girls the power of having women in STEM.

Ethan: Speaking of ladies supporting ladies, it was great to see some of our newest female 9th grade members helped out another team sew their bumpers at the Buckeye Regional this year, so they could pass inspection to compete.

Abby: Yeah, that was Team 9643.

Ethan and George: Is that a Team Lady Voltage reference?

George: Speaking of the Buckeye Regional, we helped a lot of new teams and some teams who were competing at their first event of the season with code support. We even helped rewire Team 10208, Mayhem Manufacturing, when they had wiring connection issues during practice matches. We also helped them with their code, and made suggestions to them about how to make some improvements before this competition at Miami Valley by adding a climber..

Abby: I know you and Ethan may have been super busy Thursday as part of drive team, but two of our rising FRC 8th graders from our Ozone Blue and Ozone Green FTC teams, who have been working to learn about pneumatics while making improvements to our Kitbot, turned out to be a big help to Team 10208 when they helped them with their pneumatic climber they added since the Buckeye Regional. I love that our newest FRC members are stepping up and learning the value of giving back to make our FIRST community better.

Ethan: That was awesome to help a team perform better at competition. But that is not something new for Ozone, we've been spreading positive coopertition for years. When teams around us have been in need, we've shown up with a helping hand, spare parts, and any support we can provide. Last year at the buckeye regional, we did just that for Team 9545...

Ethan and George: Is that a Caracal Robotics Reference [Insert Dap Up]

Ethan: when their robot ran into wiring issues during playoffs.

George: Team Caracal joined our playoffs alliance last year and they competed with us throughout the competition as our main defensive robot. During the finals, their robot broke down, due to some wiring issues. Their team did ultimately advance to the FIRST Championship in Houston, but they came to us with a big ask.

Ethan: They were unable to take their robot back to their home country of Turkey, since there was such a short window between the Buckeye Regional and Worlds, so we offered to bring their robot back to Ohio with us and help them by transporting it to Houston for them.

George: In collaboration with Team Caracal, we made repairs to their robot, including their wiring, reinforcing their robot's robustness, and helping them to code an autonomous program they could deploy at Worlds. We also sent code support to their division's pits to help explain the improvements and help them with deploying the code.

Abby: I noticed what great relationship our team has built with other teams, like Team 27.

Ethan and George: Is that a Team Rush Reference?

Abby: Yes, yes it was. It was great to have a Team Building activity with them since they just happen to be staying in the same hotel as us. I enjoyed meeting with them over Zoom to practice our Impact presentations with each other, ask questions and provide presentation feedback, and learn more about each other's team dynamics. Our team really does want to perform well, but we want everyone to do well.

Ethan: While we know our outreach has grown exponentially the past 3 years, we plan to continue our growth and find new ways to support, motivate, and have a positive impact on our community. We look forward to helping our community move:

ALL: Onward and Upward

George: Thank you for your time and consideration today.