

The Team

Team 342, the Burning Magnetos, was the first of many teams created in our area of North Charleston, South Carolina. When we started in 1999, our team was made up of many schools around the Dorchester District Two. Team 342 received the 2016-2017 Innovation in Control Award for our swerve drive design and attended the 2017-2018 World Championships in Houston, Texas. Our team participates in two regionals every year: Palmetto Regional in Myrtle Beach, South Carolina; Rocket City Regional in Huntsville, Alabama.

We, the Burning Magnetos, have several bonding activities during the on and off seasons. One such instance was a paintball game at Paintball Charleston. This participation increased our relationships as a team and our communication skills. This decreased tensions between members. We also did two River Floats at the Edisto River which improves communication skills and teamwork during the summer. The summer is a huge and important time for Team 342 because we have many instances of team building because of the increase of new members. The many new members we have allow our team to experience many different things. During the off season, our members and mentors have many instances to get to know the new members. During the Reveal Night also known as Kickoff, our team converges on our school to experience the Game Reveal together.

Our Mission

Our mission is to provide a real-world environment where with a strong work ethic and effort, students will develop important skills that will help them later in life. Students get experience with real-world application of science, engineering, technology, and business while fostering the character traits of leadership, sportsmanship, dedication, and commit to excellence. It is important to our community that Science, Technology, Engineering, Art, and Mathematics (STEAM) programs are accessible and molded to all. As our motto says, "Take the message further!".

FIRST Relationships

Our team hosted a Satellite Kickoff for the start of the 2020 season which held workshops given by mentors of local teams. A total of eleven FIRST Robotics Competition teams were in attendance including ourselves. We assisted other teams and shared our workshops using GitHub and Chief Delphi. We provided other teams resources to aid their subteams, including their drive teams.

Another event that our team hosted was the Robot Reveal Night of the 2019 season where our team and two FIRST Lego League, Jr. teams participated. We, the Burning Magnetos, also hosted a Kickoff stream for the 2018 season which had four teams in attendance. Our team invited twenty-two FIRST Lego League and Vex eighth graders and six ninth graders became members. We had a twenty-seven percentage (%) acceptance rate.

Our team leaders met with our school district superintendent to fully address and explain robotics. Our team aided other teams and hosted an open invitation for seven other teams to use our field elements during 2017, 2018, 2019, and 2020 season.

Local Reaching

One main event that our team participated this year has been the 2019 local Christmas Parade in Summerville, South Carolina. Our whole team walked in the parade with our robot, Burnie, to show the children Science, Technology, Engineering, Art, and Mathematics (STEAM) in action. During the last three seasons, our team has visited multiple local middle schools to encourage their interest in Science, Technology, Engineering, Art, and Mathematics. During the 2018 season our

team was involved with the Stem Collaborative Festival also known as the annual Low Country Robotics Jamboree.

Team 342 is involved in our local highschool events. We aim to involve more highschoolers by organizing frequent opportunities to encourage Science, Technology, Engineering, Art, and Mathematics during and after school. This includes making the team known throughout the school by showcasing our skills at our Freshman Orientation and Patriot Rush (place for extracurriculars to gain members).

To encourage girls to participate in Science, Technology, Engineering, Art, and Mathematics (STEAM), two of our mentors aided in an event called, Girls Day Out. This took place during the 2019 season. Our mentors invited the seventh, eighth, and ninth to observe Engineering in Action.

Local Outreach

Some of our members attended Robots by Design at the Joint Base Charleston which includes the AirForce and Weapon Station libraries during the 2016 season. We handed our brochures to local teams that we handed to the children of age for FLL JR., FLL, FRC and FTC. based off of the schools they attended.

We also attended the Charleston STEM Festival for the 2019 season at the Coastal Carolina Fair grounds. At this event we handed out buttons and pamphlets to inform people on FRC and also we had a robot demo for children drive our robot to learn more about robotics.

Another demonstration we had for our robot during the 2019 season was at Fort Dorchester, Windsor Hill, Oakbrook, and Eagles Nest elementary schools at their Science, Technology, Engineering, Art, and Mathematics (STEAM) Nights.

Team 342 participate in a Lego kickoff for students. At our local aquarium in DownTown Charleston we had a robot demonstration for families of the FLL Jr. students. We also distributed food for other teams in attendance and talked with local teams to build closer relations.

Several members of our team participated as volunteers at a FIRST Lego League, Jr. event during the 2019 season. They participated as scorers, table resetters, and referees for the competition. We also had a robot demonstration for the parents and students at this event. Our team has started four FIRST Lego League Jr. teams by providing the materials and time needed so our students can be mentors for the third graders during the 2020 season. For the 2019 season we had six FLL Jr. teams and three teams for the 2018 season. Three of our members mentored for local FLL teams which included giving time and resources.

Some of our members also were involved with Vex. One of our members mentored a Vex team during the 2020 season. Another member volunteered and participated at a Vex competition.

Team 342 has appeared twice on Channel 5 News in the past two years. For the 2019 season, our team had a robot demonstration about FIRST Robotics Competition for the Charleston area. For the 2020 season, Channel 24 interviewed our student leaders about STEAM (Science, Technology, Engineering, Art, and Mathematics) and FIRST Robotics Competition. They also answered questions about the upcoming game and more details upon the robot. We also had a robot demonstration for the reporters of our robots from the past three games.

At this year's Palmetto Regional FIRST Robotics Competition in Myrtle Beach, South Carolina our team will be able to educate people about fire safety. We will have a table set up at the convention center with pamphlets, handouts, buttons, and fire safety swag. With this table we will be able to inform attendees about the dangers of all types of fire situations as our team saying is "Feel the Burn". Members of our team throughout the competition will rotate at the table to answer any and all questions.

Making Science, Technology, Engineering, Art, and Mathematics Accessible to ALL

The first way we try to make STEAM available to all people, we recruit people in their eighth grade year for their highschool years. We try to assist them in developing an interest in robotics during the summer or during the beginning of the school year. We utilize our older members during Freshman Orientation, Patriot Rush, and our frequent Elementary school Robot Demonstrations during the year.

Our team has been involved in a Girls' Day Out and we have extended an open invitation to other teams to ensure our local teams can fully be prepared for the upcoming season. We also fulfill our wish of making STEAM accessible to all by meeting with our Dorchester District Two superintendent to fully explain FIRST Robotics so that all our locals teams get the most out of their resources.