

Robotics attempts to repeat success

By Millicent Watt

Allentown High School's robotics team, FRC 1807 Redbird Robotics, has been striving for the FIRST Mid-Atlantic District Championships since their win in 2017. Last year, the team worked many days and nights throughout January and February to compete, making it to the FIRST Mid-Atlantic District Championships held at Lehigh University. This year, the team is doing the same, but plan on making it even further than last year.

After making it to the finals after its first competition on March 2nd and 3rd, the team is in excellent shape to make the

championship.

Redbird Robotics participates in FIRST Robotics, a competition that encourages students to explore their passion for engineering, programming, and communication. The team's number is 1807, meaning that when created in 2006, they were the 1807th team to sign up for FIRST, and the FRC at the beginning stands for FIRST Robotics Competition. Lastly, because of its location, Redbird Robotics competes in the Mid-Atlantic District.

On Jan. 5, the team gathered around to watch a video released by FIRST Robotics, explaining the challenge, which determines the design of the robot. This year's

theme is Destination: Deep Space, where each alliance must put hatches -- circular disks -- and "cargo" -- large orange balls -- on or into a designated rocket ship or cargo ship, and then report back to a platform before time runs out.

The pad has three levels, where the robots must "climb" in order to reach the third level. By doing these actions, each alliance can accumulate points which can help teams move up in rank.

This year, the team, led by Joey Sofia and Elizabeth Olshanetsky, designed a robot that could pick up both hatches and balls, as well as climb to the third level. During build season, which spans from the start of January to the end of February, the build team spent many hours analyzing past robots and past challenges to begin designing the robot.

After many decisions, negotiations, and exhausting nights, they settled on a few designs, and began prototyping them out of wood. Once tested, the most functional prototype would be made and attached to the robot. The programming and electrical team worked together to make the robot responsive to controls so it could be controlled by the team driver, Joey Sofia.

Although the business team doesn't work on the robot, it helps plan outreach events with the community, write branding standards and business plans, as well as reach out to sponsors for money, and make sure the team is ready for competition.

After a few weeks of practice and anticipation, on March 2nd and 3rd, the robot

was put to the test at the Hatboro-Horsham competition in Horsham, Penn. By the end of Saturday, Redbird Robotics was ranked second out of 60 teams. Returning on Sunday, the team dropped to seventh place.

After qualification matches, the top eight teams are made team captains, and must choose three other teams to join their alliance. Fortunately, Redbird Robotics was lucky enough to be chosen by the number one team. With a third team chosen to be on the alliance, Redbird Robotics and its allies were ready to head into the finals, where they made it past the quarter and semifinals.

During the first round of finals, Redbird Robotics, as well as other teams lost connection, meaning that the robot was paralyzed -- unable to help the other allies. However, finals were best out of three, and with the connection back up and running, the team's alliance won the second round of finals, meaning them and the other alliance were tied.

Unfortunately, Redbird Robotics and its alliance lost, the score 61-69. Although disheartened, it was the first competition they attended, and the performance exceeded expectations. In addition to making it to finals, Redbird Robotics won the award for Industrial Design Award and gained enough points to secure a spot in the Mid-Atlantic District Championship.

The next competitions Redbird Robotics will be competing is at FIRST Mid-Atlantic Championship at the Lehigh University Stabler Arena April 23-28.



COURTESY OF REDBIRD ROBOTICS

The Redbird Robotics team is off to a great start this season, already qualifying for the Midatlantic Championships through achieving high finishes in its first few competitions.