

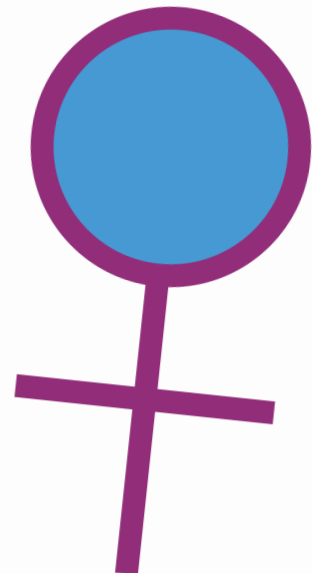
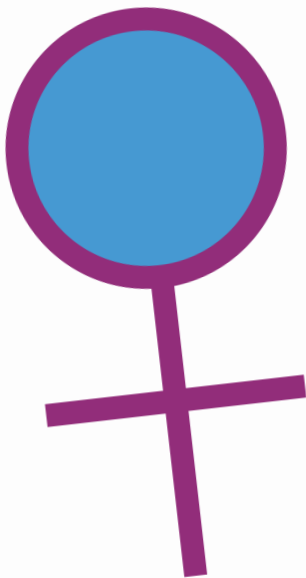
A Small High School's Big Mission of Being Girl Powered

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Team Location: Shoreham-Wading River High School

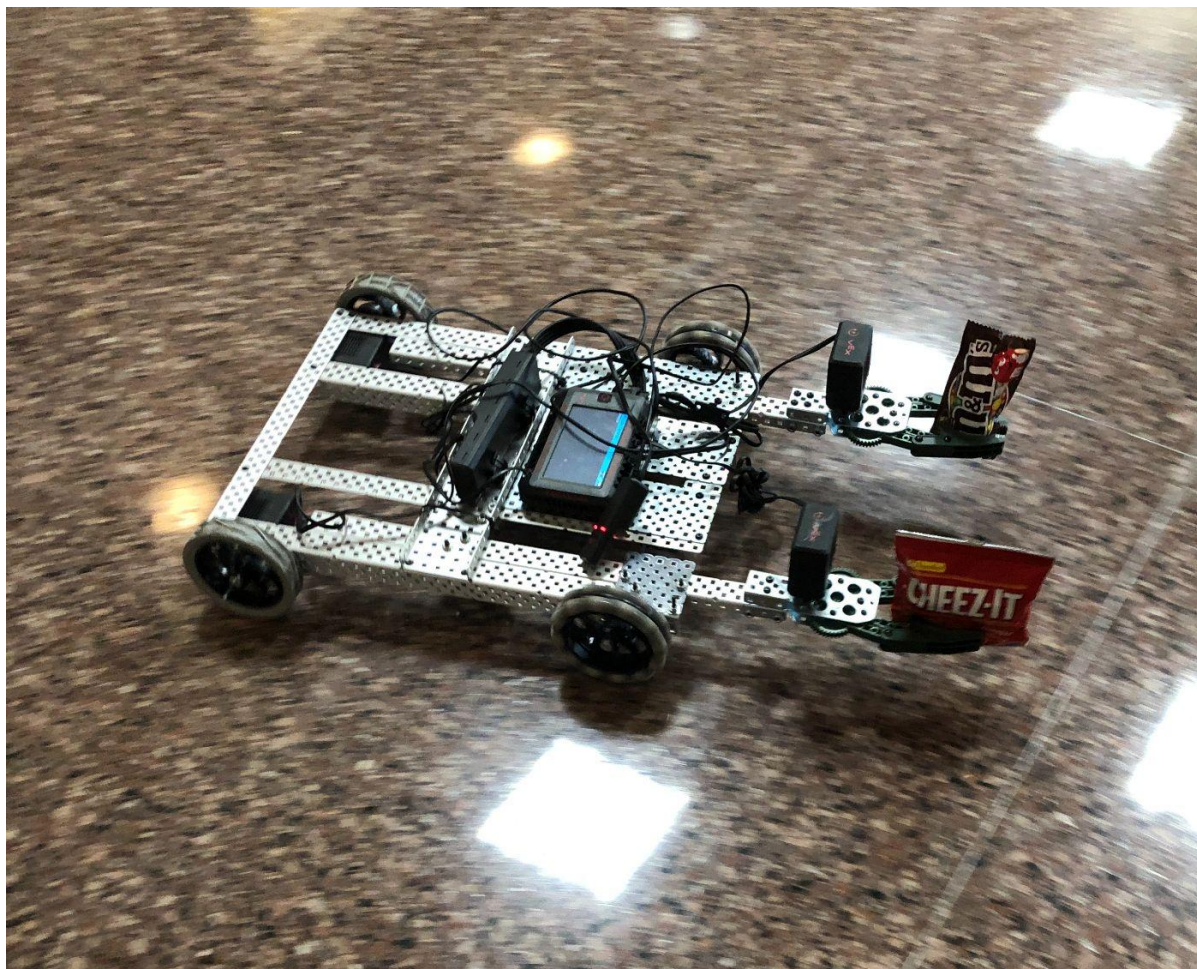
Girl Power



The phrase “Girl Powered” is very meaningful to the Shoreham-Wading River High School’s robotics team, and we work to increasingly incorporate the ideas of the Girl Powered initiative into our team at every meeting. When I hear “Girl Powered” I think about all the opportunities that are opened up through participation in robotics and how robotics strives to be a diverse environment that is supportive of everyone, regardless of gender. “Girl Powered” is reflected in my team’s approach to robotics as there are seemingly endless opportunities for women to be involved in the robotics team. As a woman interested in robotics, I find our robotics team to be empowering. I first entered the robotics team as a freshman and became the head programmer that year and continue to be so. I love having the opportunity to lead and solve problems in my robotics team, something that wouldn’t be possible without my team’s dedication to the Girl Powered initiative. On my team there isn’t any distinction between the male and female members, we are simply one team working together to learn, improve, and succeed; everyone has an equal opportunity for success if they put in the effort.

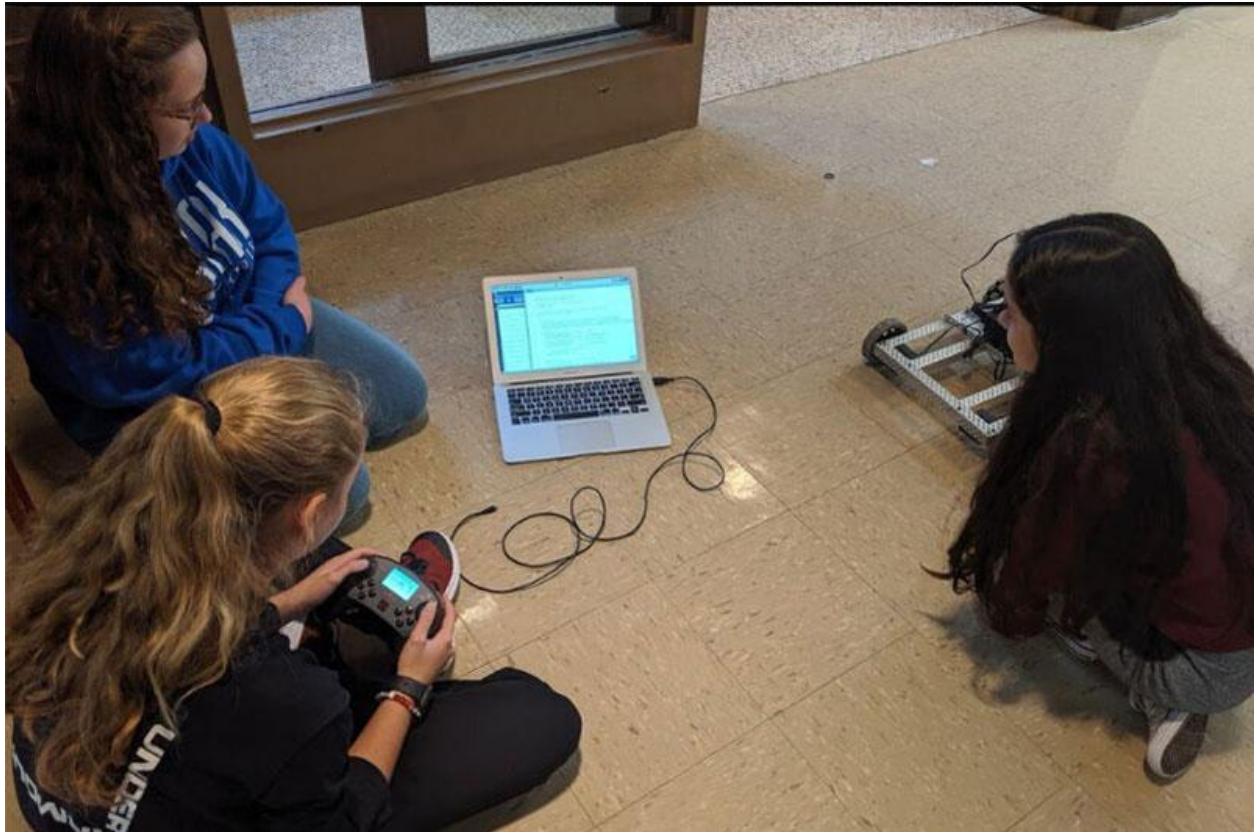
My team works hard to create an inclusive environment. On my team there are members who are of different genders and have different ethnic backgrounds. This is important to our team because we are able to improve ourselves by learning about each other and different cultures, allowing us to become better people as well as better roboticists. We promote the robotics team to other students by telling them what robotics is all about and the great memories that we have made from being on the team; from creating a robot that could carry snacks from the vending machine to finally figuring out why a certain code wouldn’t work after an entire meeting of working on it. Some of my best memories from robotics are of the team testing out the robot around

the school and making sure it can function properly and for a prolonged period of time rather than only in the short run. The planning process for creating the robot is also interesting as we get to hear the opinions of every member of the team and see presentations of ideas. By combining the ideas of team members we can come up with a great robot that we wouldn't be able to create without the help of the rest of the team.



The robot used to retrieve snacks from the school vending machine.

There are many roles that members of the robotics team can try. At the start of the season all members are involved with design and strategy. We watch the opening video of the season's VEX robotics competition. After that, each member gets a chance to plan and draw out a potential robot and come up with different ideas. We discuss our plans and some members present their drawings. The rest of the team gives feedback and constructive criticism to the plan. We use combinations of ideas to come up with the best robot we can. Through this process we learn how to work as a team to have the best possible results and how to help each other improve plans or find a new way of thinking that could be beneficial for problem solving. After this, the team splits into two groups; the Development Team and the Engineering Team. The Development Team focuses on the programming and the Engineering Team works on building the robot. Although there are two separate groups, members can work with both groups to get the experience of programming as well as engineering. Since I am the head of the Development Team I mainly work with that group. This season there are five other main members of the Development Team; Sofia, Jacob, Alston, April, and Ray. We code in the C++ language and use a test bot to make sure our code is functional. This test bot is simple in design but effective for its task. By doing this we learn about the coding process in robotics and how to solve problems that arise while coding, such as why motors aren't responding as we expect them to or why the code won't compile. We also practice driving the bot through the hallways of our school; this helps to educate others about the robotics team as they get to see what we do in person. By driving the robot we become more familiar with the controls and how the code we use works in action. We also get to see if the controls we set are effective or if we should change them. This helps to prepare us for the VEX robotics competition as well as gives us a better understanding of how C++ works.



Three members of the Development Team working on and testing code with the test bot.

This year, our robotics team decided to take in a young woman from the middle school, April, to educate her about STEM and encourage her to continue to have an interest in the STEM field. We hope that giving her the opportunity to participate in robotics will be beneficial and show her that women are successful in STEM. We want to show her that women's voices in STEM are just as powerful as men's and that robotics is not meant for a specific gender. This is just one way that our team works to incorporate the Girl Powered initiative into our team.

I strongly believe that the diversity of perspective on our robotics team makes us more successful. This allows for us to have more ideas on robot design than if everyone on the team thought the same. For example, there are amazing ideas that my teammates come up with that I, admittedly, never would have thought of. Without diverse ideas our robot would have a lesser quality. In order to be successful the members of a team would need to recognize their weaknesses and limitations as well as the strengths of other members; my team strives to do this and learn from each other. We recognize that we are not experts at everything, and that people with different backgrounds and more experience in certain areas have more knowledge about those fields than other members, and so we learn from each other. We also teach each other about our strengths so that other team members improve. Overall our team is simply trying to create an environment where everyone can grow and learn. Because of this, my team has exceptional chemistry and a bond that only comes from working as a team. Through robotics I have met people from different backgrounds that I likely wouldn't have met outside of robotics, and because of that I have improved as a person and learned to be a better teammate. Without different perspectives my team would not be as successful as it is today, nor be as special of an environment.

My STEM role model is the robotics coach, Mr. Vertucci. Mr. Vertucci is my STEM role model because he emphasizes the importance of STEM in the world and creates a positive robotics environment. He gives everyone an equal opportunity in the robotics team and treats everyone the same, regardless of gender or background. He inspires my team to have a more inclusive program by making sure that every team member feels included in the process of developing the robot and allowing for students to take initiative in leading the club. Without a supportive coach it would not be possible for our robotics team to be as diverse or successful.

Our ultimate goal is to create an environment where everyone is welcome and has the opportunity to learn and succeed. We hope to have an increasing number of diverse students join the team as we work to promote the club around the school. We want to prove that our team breaks the barrier of robotics being considered a male-dominated field and we strive to inspire young women to change the world through STEM.

