



# Pingry Robotics

**Sponsorship packet**



## Overview

Big Blue Robotics of The Pingry School is an extracurricular club that aides and provides a platform for students to develop their STEM experiences by participating in robotics competitions hosted by the FIRST organization. Big Blue Robotics is a relatively new organization, but our recent achievements have been incredible, including entering the international FIRST World Championship for FTC at Detroit, the highest level of the FTC competition.

Big Blue Robotics participates in FTC and FRC, which are robotics programs designed by the FIRST organization to test each team's skill in robotics. Through these programs, FIRST offers a platform for students who are interested in the fields of STEM to perform and exhibit their skill sets. FIRST Study shows that...

- FIRST participants are over 2 times as likely to show gains in their interest in STEM
- 87% of the FIRST participants plan to take a more challenging course in math or science
- FIRST participants are 2.6 times more likely to enroll in an Engineering course

Between the two challenges, FTC is of a smaller scale than FRC with smaller team sizes and generally lower budget. While the team members of FTC are expected to be versatile in their skill sets, the team members of FRC generally specialize in their respective certain fields such as robot design, programming, mechanics, or business management. Since we compete in both, we are able to build our general skills and are more competitive in FTC, while also attending the larger, more exciting competitions and building specific skills in FRC.



## Why Donate?

### What are the Pingry robotics teams and goals?

Starting from this year, Pingry's FTC robotics program will branch into three teams: the veteran team, the rookie/freshman team, and the middle school team. Though each of the three teams will build their own robots, we will be sharing resources such as sponsorship and tools. The two high school teams will merge into one FRC team in January.

Big Blue Robotics is a relatively new organization, but our achievements in the past few years are incredible. In the last two years, the Big Blue Robotics team entered the international FIRST World Championship for FTC (2018) and FRC (2019) at Detroit, the highest level of FIRST competitions. For this year, our goal is to continue to advance to state competition for FTC and the Mid-Atlantic Regional championship at Lehigh University for FRC, and if possible, beyond. In addition, we seek to further establish the name of the club through outreach and sponsorship. We believe that we will improve over time with the help and trust of our sponsors and our school.

Visit our website: <http://students.pingry.org/robotics/> for more information!





## How would sponsoring Big Blue Robotics benefit you?

We believe that we have the talent and the passion to become one of the top robotics clubs in the region. As a smaller organization, we are willing to put all we have on the table to win your trust and support: whether it is loyalty, advertisement, or others. We will grant lots of advertisement space, including our T-shirts, team jackets, and for our higher tier sponsors, banner space and verbal announcements. For instance, in FRC, when we compete in any match, the MC will announce our team name and say "FRC 2577 sponsored by:". We can guarantee that you will not regret sponsoring Big Blue because we trust ourselves and what we can do. The team has a passion to rise and become the next generation of engineers and leaders in the STEM field; FIRST provides us with the first step to achieve these goals.

## In what areas can sponsorship benefit Big Blue Robotics?

Because robotics is a high-tech field, supplies for building a robot can be very costly. Some resources (i.e. gearboxes) can often cost hundreds of dollars and have to be plentiful. For FRC, registration alone costs \$5,000 at only the entry level, which increases for each subsequent advancement. However, the greatest expense for the team is machinery. For example, we would love to have a new 3D printer for the robotics club. Our current one is small and can only support prints up to about 4 inches by 4 inches by 4 inches. With a few larger 3D printers, we will be much more flexible at assembling robots with custom designs. Having multiple printers will also our teams to be efficient in terms of prints since some prints will take many hours or overnight. We also are looking into receiving funding for a CNC mill to make custom parts out of metal. Our less costly items on our list include a new portable vacuum to bring to FRC competitions, portable shelving units for competitions, and a new FRC robot cart.

Although monetary sponsorship is always appreciated, our greatest need is technological assistance. For competitions such as FRC that require bigger and more intricate robots, the process of constructing the robot can be challenging and intense. Therefore, we would definitely benefit from suggestions and advice from professional engineers.



## What is FIRST?

For Inspiration and Recognition of Science and Technology (FIRST) is an international organization that focuses on the development of youth's interest in the field of science, technology, engineering, and mathematics (STEM). FIRST operates a variety of competitions and challenges, including the FIRST Tech Challenge and the FIRST Robotics Challenge, the ones that we participate in.

FTC teams must build robots under 18" by 18" by 18" and weigh less than 42 pounds to complete specific challenges revealed in early September of each year. This year, the challenge is called "Skystone," in which robots must be able to collect blocks, perform multiple autonomous tasks that involve color and depth recognition, and stack the blocks on top of other blocks on a platform to form skyscrapers. The season starts in September and can end in late April depending on advancement.

FRC teams build larger scale robots which must be under 125 pounds to complete specific challenges revealed in mid-January of each year. The game for the 2020 season has not been revealed yet, but last year's challenge was "Destination: Deep Space," in which robots had to collect and place panels and rubber balls onto a rocket more than 10 feet tall. The game starts with an autonomous period in which the players' view of the field is restricted, and the robot is either controlled by players with cameras and vision programs or by coded programs. Then, the players regain their views and advance to the teleop period. In this period, teams can earn points by placing panel or balls on the rocket. Teams can also score points by climbing onto platforms of various heights (3 inches to 4 feet) at the end of the game. The 2020 season will soon start in January and end in late April depending on advancement.



## Needs List

Starting from this year, Pingry's FTC robotics program will branch into the veteran team, the rookie/freshman team, and the middle school team. The three teams will be sharing resources such as sponsorship and tools. The two high school teams will merge into one FRC team in January. Therefore, any resource sponsorships that sponsors provide will be shared among the teams. The following chart is a list of resources that sponsors can kindly provide or we would use the monetary sponsorships to purchase.

Items	Number	Single Item Cost	Total Cost
FTC Entry Fee	3	\$275	\$825.00
FRC Entry Fee	1	\$5,000	\$5,000.00
FRC Competition Fees	TBD	TBD	\$2,000.00+
New Laptops	2	\$450	\$900



## Reward System

The support of the business community is crucial to the success of Big Blue Robotics. We have created a tiered reward system to better collaborate with our business partners. We welcome you to join the team. Please view the program below for a detailed list of the rewards we offer.

### **Tier 1: Blue-Grey (\$100-699)**

Rewards:

1. Listed on our team shirts which we will wear during tournaments.
2. Listed on the sponsor page of our website.
3. “Thank You” picture including and signed by all of the team members

### **Tier 2: Teal (\$700-1299)**

Rewards:

1. Logo advertisement area on team shirts that we will wear during tournaments.
2. Spot on the sponsor page of our website with company logo.
3. “Thank You” picture including and signed by all of the team members

### **Tier 3: Sky (\$1300-3000)**

Rewards:

1. Company logo sticker on both FTC robots
2. Company logo sticker on FRC robot.
3. Advertisement area on all banners we hang at the competitions we go to.
4. Advertisement area on team shirts that we will wear during tournaments
5. Company logo and/or banner displayed during Pingry’s FIRST tournament
6. Spot on the front page and higher on the sponsor page of our website.
7. Company logo will be displayed during all of the outreach events that we will attend
8. Company brochures will be available during all outreach events
9. “Thank You” picture and a handwritten letter signed by all members of the team.



#### Tier 4: Arctic Blue (\$3,000+)

##### Rewards:

1. Company logo sticker on both FTC robots
2. Company logo sticker on FRC robot.
3. Advertisement area on all banners we hang at the competitions we go to.
4. Advertisement area on team shirts that we will wear during tournaments
5. Largest and highest spot on the sponsor page of our website with a paragraph description of the company and featured spot on the front page of the website.
6. Company logo will be displayed during all of the outreach events that we will attend
7. Company brochures will be available during all outreach events
8. "Thank You" picture & a handwritten letter signed by all of the team members.
9. Upon request, all types of team merchandise will be mailed to the company. This includes T-shirts, button pins, and sweatshirts.





## Mentorship & Aids

In addition to resource sponsorships, Big Blue Robotics would also greatly appreciate any mentorship and aide in the process of assembling our robots. Mentorship would be converted into credits according to its length, and the credits would be evaluated into the tiered reward system. (1 credit=\$50)

Type of Mentorships	Credit Value
CAD	1 credit per hour
Mechanical	2 credits per hour
Programming	3 credits per hour
Others	1 credit per hour

Furthermore, Big Blue Robotics also provides credit to the lending of use of machines. Because we have limited space in our club, we could neither afford nor keep industrial-grade machines that could be beneficial to the assembly of our robots. For further information regarding machinery, please contact Mr. Jeffrey Jenkins at [jjenkins@pingry.org](mailto:jjenkins@pingry.org).