



Full Metal Beavers

FIRST® Team 6636

Entrepreneurship Award

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Jamaica Gateway to the Sciences Robotics Club



JAMAICA GATEWAY TO THE SCIENCES

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FIRST® Robotics Competition Team 6636
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ENTREPRENEURSHIP AWARD



Mission Statement:

The Full Metal Beaver's mission statement is *to motivate young people to pursue educational and career opportunities in STEAM-related fields, inspire them to become leaders and innovators, and enhance self-confidence, knowledge, and life skills.* We strive to achieve this mission everyday by having our three core values, equity, opportunity, and unity, drive every decision we make.

Team History and Growth:

Full Metal Beavers is a non-profit organization created in 2017 with a vision of revolutionizing how our communities view Science, Technology, Engineering, Art and Mathematics (STEAM). We are located in Jamaica Gateway to the Sciences, a high school with the robotics team as its sole STEAM program. We have made it our mission to create a community that promotes Equity, Opportunity, and Unity. Since the creation of our team, our female demographic has improved from predominantly male to a ratio of 1:2 female to male. This is a large accomplishment for the team since our goal is to provide more access to STEAM for the female members in our school. The primary obstacles we have faced over the last couple of years is accountability and keeping members on track in school. Throughout the year, the team aspires to help each and every member efficiently manage their lives outside of robotics to combat stress and being overworked. The members of our team facilitate several workshops throughout the year to help our team to grow and mature. Throughout the last two years our team has grown from the robotics club to the robotics team; from a place to a home, where members can learn, grow, love, laugh and engage in STEAM-related activities that they may not have access to otherwise. We strive to provide underrepresented students with the opportunity to participate in a program that opens countless doors for young students such as FIRST Robotics Competition.

Organization Structure:

Full Metal Beavers has an efficient structure that is overseen by two mentors. The team comprises four departments, each playing an important role as an essential job building up to the competition: The Business Department, Engineering Department, Competition Department, and the Operations Department. Within our respective departments, there is a student leader in charge followed by two to three managers of their respective sub divisions followed by their collaborators. The mentors oversee the directors while the directors are in charge of their designated departments. We continue to grow our program through community outreaches, conducting info-sessions, workshops, and monthly volunteering, as well as creating a "Greener Gateway" initiative through a bottle drive where our school recycles bottles and the bottles collected all go to another non-profit organization. Our program is built around our core values of equity, unity, and opportunity; it strives to supply each and every one of our members with the equitable environment they deserve.

SWOT Analysis:

Strengths

Full Metal Beavers has a strong work culture. We have a training program that encompasses workshops and one-on-one sessions to improve our members' knowledge and ethics. Through this training program our members gain opportunities to become leaders, learn how to delegate tasks, remain accountable, and maintain high integrity in their work. This strength leads to another we highly value: our organization. This is in relation to both our team structure as well as how all team information is communicated. In addition, all team documents, like agendas, attendance sheets, and other forms of documentation, are kept organized using a shared team Google Drive and several binders housing several of our team's most cherished documents such as our Safety Handbook.

Weaknesses

One weakness our organization encounters among its members is, what we call, *comfortability with mediocrity*. We have found some of our members need extra motivation and support to help them reach the potential we know they can achieve. We are constantly working to have our members want to see the team grow to its fullest potential by ensuring that everyone understands the vision of the Full Metal Beavers.

Lastly, our members present ideas related to how we can improve the Full Metal Beavers. This year, we have put a procedure in place in which the idea is planned out and put into an official document and then communicated to the team leaders to go through an evaluation process. Our goal is to incorporate this feedback into our organizational system.

Opportunities

Our team strives to give all of our members the opportunity to learn different types of software skills like CAD, animation, photoshop, video editing, and data analysis.

One opportunity presented in Full Metal Beavers is allowing our members to engage in STEAM related activities which 79% of our alumni have pursued careers in. We aim to expose all of our members to teamwork and professionalism which prepares them to handle situations like conflict resolution, networking, and problem-solving in their lives after FRC.

Threats

One of the biggest threats that the Full Metal Beavers faces is our limited access to resources and equipment due to very little funding and space provided to us by our school. To combat this, we work tirelessly to make up for any funds we need to raise and also use our resources to our advantage.

Another threat that our team faces is work exhaustion because that can lead to mistakes. Our members are expected to learn to manage their time in order to balance their team, school, and personal lives which can be overwhelming because of the workload. To combat this, the team and its members try their best to make sure that everyone is fully supported to properly manage everything.



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FULL METAL BEAVERS

Marketing:

To promote our brand, Full Metal Beavers participates in several initiatives, such as volunteering in local parks and food banks, performing community outreach in which we directly contact businesses and local residents to request support, and maintain a media presence that enables our team to network with others. Our team has an Instagram account, a website, and a Patreon page. The purpose of these platforms is so our team can network with fellow teams within FIRST and interact with our spectacular community. Moreover, we hold several fundraisers such as movie nights and bake sales throughout the season to keep our school engaged in what Full Metal Beavers continues to evolve into while still including the rest of our school community in our activities.

As a crucial component of our brand, our logo is easily identifiable due to its uniqueness. It integrates our school mascot to increase our appeal to our school and the community. In our school, we have a strong presence as there is rarely a student who hasn't heard of the Full Metal Beavers or does not have an idea of their endeavors.

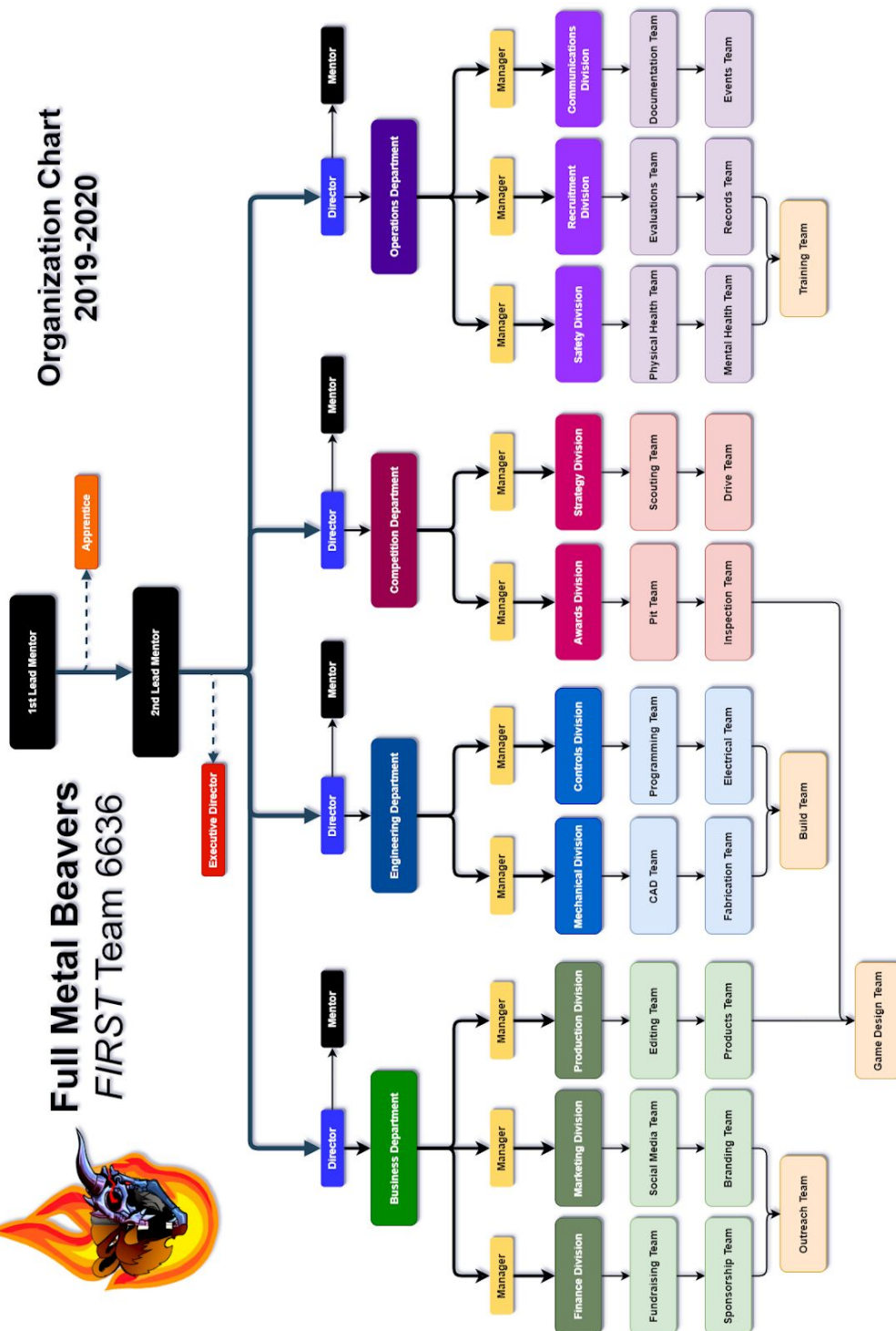
Financials:

Sponsors, outreaches, community events, fundraising events, and Patreon are ways that we raise money for our team. Our team is funded through three big sponsors. NASA, Intuitive Foundation, and Jamaica Gateway to the Sciences High School. We work with a static budget by calculating how much money we will spend on competition, food, etc. Our goal is to raise 33,000 dollars to match our budget. We put the logo of our sponsors on our robot, team apparel, and our banners. One way we gain sponsors is through community outreaches in which members inform local communities about our team. Different levels of donations have different levels of benefits. For example, if someone donates \$25 to the team, they would receive an exclusive pin and be added as a "Beaver Friend" on our website. Along with these different types of sponsors, we also run a Patreon page in which we have more than 20 pledge supporters. Being a patron comes with many different benefits. In addition to access to our exclusive podcast and behind the scene clips, our Patrons receive a letter, 3D printed parts, and team apparel. We love to show off our sponsors and appreciate them to make sure we receive continued support and maintain a good relationship with them.



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Organization Chart 2019-2020



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Team S.W.O.T. Analysis

<i>Strengths</i>	<i>Weaknesses</i>
<ul style="list-style-type: none"> • Builds strong leaders and allows all members to acquire leadership skills • Organization / Structure of the team that ensures integrity • Our members are highly committed and dedicated • High standards to avoid mediocrity • Strong team-wide communication through Discord and GSuite • Well connected so that our core values of unity, opportunity, and equity are upheld • Collaboration within the Team between the Departments to ensure unity and cooperation • Members are aware of their own strengths and weaknesses through the Training Sessions and their Training Coordinator • Strong mentors so that members can learn and train to be future leaders 	<ul style="list-style-type: none"> • Struggling to meet deadlines • Inability to execute ideas • Imbalance of task distribution • Not enough time to meet in person • Limited Workspace • Little school funding/support
<i>Opportunities</i>	<i>Threats</i>
<ul style="list-style-type: none"> • Learning different software platforms • Working on being a leader • Gateway to STEAM field careers • Entering top tier colleges • Entrepreneurial opportunities • Internships in STEAM Related Fields • College Scholarships from STEAM Related fields • Expanded our opportunities for engagement with our communities 	<ul style="list-style-type: none"> • Outreach Safety • Academics • Equipment/ Resources • Lack of support from school and staff • Lack of Sponsorships • Weak brand reputation because of how recent the team was created • Substantial funding every year

Income Statement

Revenues	Amount	
Fundraising	\$8,279.00	
Grants	\$6,000	
Team Apparel	\$505.00	
Total Revenues:		\$14,784.00
Expenses	Amount	
Meetings	\$781.00	
Branding/ Robot Materials	\$2, 224.00	
Competition Fee	\$9,000.00	
Total Expenses		\$12,005.00
Net Income	\$2,779.00	

Balance Sheet

Assets	2019	2020
Limelight	\$400.00	
AM14U4 Kit of Parts Chassis	\$689.00	\$689.00
NI roboRIO	\$435.00	\$435.00
Lenovo Thinkpad		\$1496.67
Total Assets	\$1,729.00	\$2,825.67
Liabilities	2019	2020
World's Finest Chocolate Boxes		\$1,590.00
Total Liabilities		\$1,590.00