

**TEAM 3966
THE L&N STEMPUNKS**

ENTREPRENEURSHIP AWARD

2018



FRC TEAM 3966, THE L&N STEMPUNKS

TEAM MISSION STATEMENT

The mission of our team is to reach out and work with local schools, daycares, and organizations to inspire the East Tennessee community to become involved with science and engineering. We aim to communicate with local organizations to build meaningful relationships. We aspire to share our passion for FIRST programs and STEM education with the help of our families, friends, sponsors, and community partners. In doing so, we hope to empower the next generation of engineers, scientists, designers, and business leaders through the vision of FIRST.

TABLE OF CONTENTS

Team Origin.....	3
Organizational Structure.....	4
Budgeting.....	5
Recruitment.....	5
Communication.....	5
Relationships.....	6
Deployment of Resources.....	7
FIRST Outreach.....	7
Smoky Mountains Regional Business Summit.....	7
Future Plans.....	8
Financial Statement.....	9
Risk Analysis.....	10
Acknowledgements.....	11

TEAM ORIGIN

Our school, the L&N STEM Academy, was founded in 2011 as a public magnet school with a focus in STEM, the first of its kind in Tennessee. Our team's inaugural season, 2012, consisted of a team with only seven freshmen and one sophomore. Since then, our team grew tremendously, peaking in 2016 with 48 members.

We currently have 40 members, which is a slight decrease from last year due to our large graduating class. Our team focuses on active recruitment throughout the year to promote team growth.



In 2015, our school became overpopulated and needed space to accommodate all students. With our lab converted to a classroom, our team scrambled to find a new place to call home before the start of the season. Without the resources to purchase or rent a new space, we contacted over a dozen downtown Knoxville property owners in the hopes that we could find a sponsorship.

After a local developer, Henry & Wallace, helped house us for the past two years, we had to find another lab space to move into this winter. Luckily, a local elementary school, Green Magnet, had the room to house us for the 2018 season. The school already had a FIRST team and had heard of us through our mentorship with their FLL team 18907. Because of the instability of our lab space, our team and its members have learned about flexibility and community partnership. Our team overcame these issues last season and have worked harder than ever before.

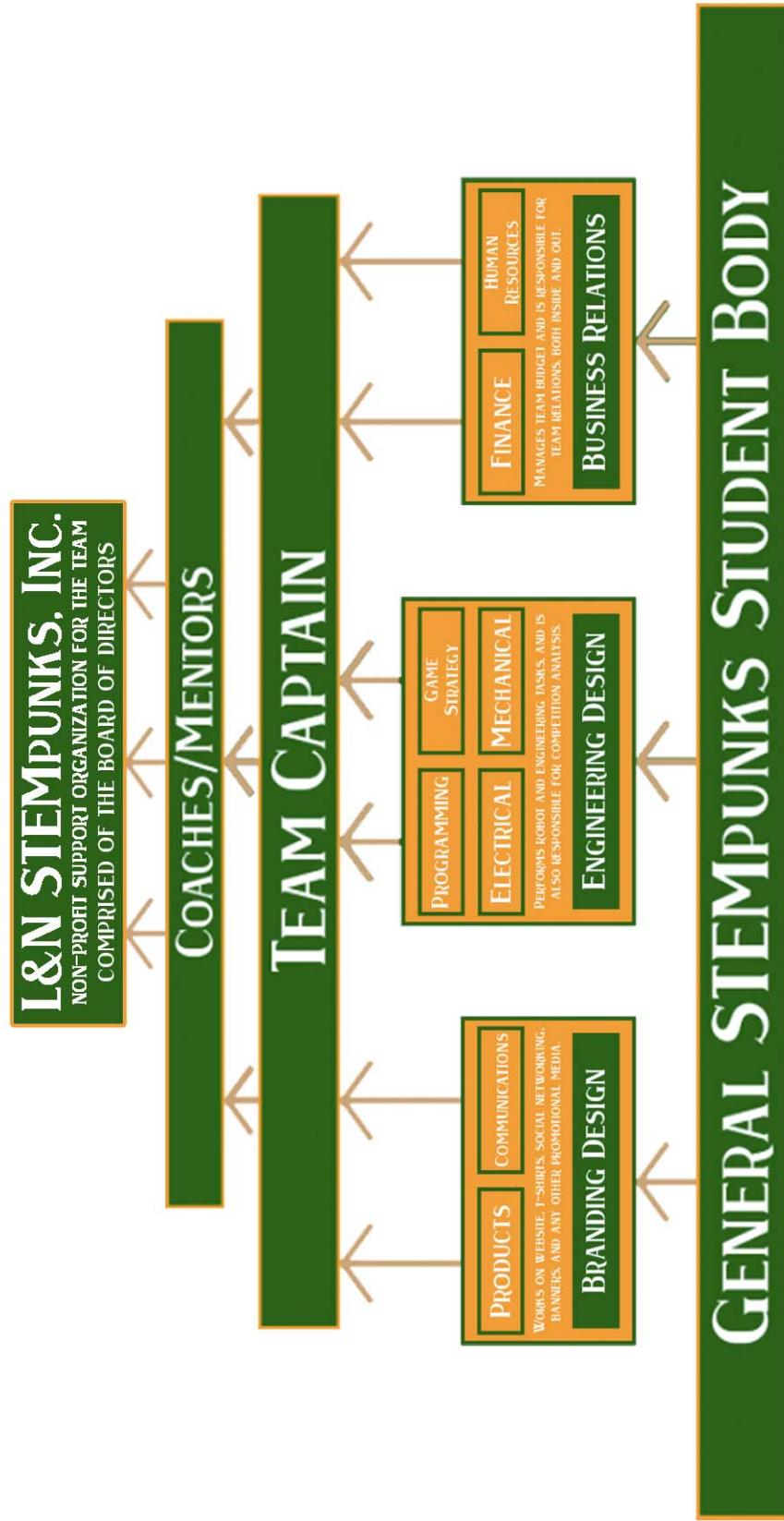


A picture of our team in 2011, before we had even started our first season.



Our most recent team picture from the 2017 Houston Championships.

ORGANIZATIONAL STRUCTURE



BUDGETING

Our Business team targets sponsors by researching organizations that offer grants or have a history of philanthropic giving, focusing on businesses that are in Tennessee. By seeking local sponsors, we are able to build stronger relationships with our community. We found that grants are the most effective way to secure funds. For businesses that do not offer grants, we contact them directly through phone and email. This year we moved our bookkeeping to Quickbooks and started a 501c3 nonprofit support organization to improve business efficiency.

RECRUITMENT

We begin recruiting new team members at the start of the school year, hosting an interest meeting for all ages, as well as inviting potential members to our lab. We also encourage veteran members to talk to their friends about joining the team. We find that students remain on the team more if they make friends. When we're at outreach events we always talk about FIRST, encouraging students to join FIRST programs, whether it be our FRC team, other local FRC teams, or teams in other FIRST programs.

COMMUNICATION

We have found great success from clarity in our leadership positions and assigned responsibilities. Students in leadership positions show initiative and vision for moving our team further towards progress and innovation. We utilize online platforms, such as Trello and Slack (which are an electronic to-do list and messaging system), to help us in task management and team communication. Our departments in business, engineering, and branding emphasize our team's interest in "more than robots" while collaborating to promote FIRST.

"THIS YEAR STARTED A 501C3 NONPROFIT SUPPORT ORGANIZATION TO IMPROVE BUSINESS EFFICIENCY."

RELATIONSHIPS

Community stewardship and recruitment are year-round efforts for our team. Through our various outreach events, we strengthen relationships with our community and reach out to potential members. In 2017, our team participated in 15 different community events where we show our robots and encourage interested students to get involved with our team and other FIRST programs. We also annually host an interest meeting at our school to engage L&N students, recruit parents and community partners to mentor, and stay connected with our team.

We regularly visit students of all ages from schools countywide to interest them in science and engineering. We emphasize giving back to sponsors by going to their events and recognizing their contribution through our rewards system.

"COMMUNITY STEWARDSHIP AND RECRUITMENT ARE YEAR-ROUND EFFORTS."

Our team has high engagement online and on social media, our success rewarded 2 years ago by winning the 2016 Media & Technology Innovation Award. Social media has allowed us to reach a broader audience in our community. We also help other teams with business affairs like social media through our annual Smoky Mountains Regional Business Summit. Unfortunately, we didn't get to host the SMRBS in 2017 due to space issues and being focused on starting our non-profit organization.

In 2015, our team met with Tennessee legislators in Washington, D.C. to advocate for FIRST and STEM education during the FIRST National Advocacy Conference, hosted by Team 27 RUSH. We continued these efforts in 2016 when our team was invited to meet with the Tennessee Department of Education about funding FIRST teams & competitions.

DEPLOYMENT OF RESOURCES

Our team connects with our community through our location, regional contacts, and local relationships. We regularly collaborate with Knox County Schools and community partners to engage in science fairs, summer camps, and demonstrations. At these events, we promote STEM education through the principles of FIRST, teaching students the meaning of Coopertition and Gracious Professionalism.

FIRST OUTREACH

This year, we continue to mentor local FLL and Jr. FLL teams. We also have been actively assisting an up and coming FRC team in our area, inviting them to our lab, and answering any questions they may have about how we run our team. It is essential for us to give back to the community in helping these teams, inspiring students to be innovative and pursue the excitement of STEM.

WE AIM TO GIVE OUR STUDENTS THE MOST OUT OF OUR TEAM BY:

- Providing a safe space for self expression.
- Teaching strong communication skills.
- Building lifelong friendships.
- Emphasizing scholarships for FIRST participation.
- Finding a place for them in the team no matter what their interests



Our team setting up a practice field at the Change Center for other FRC team in the area.

SMOKY MOUNTAINS REGIONAL BUSINESS SUMMIT

Our team annually hosts the Smoky Mountains Regional Business Summit, geared towards empowering the non-engineering members of FRC teams. We help these often overlooked departments grow their skills in branding, social media, team structure, and more. We believe these skills are essential to any successful FRC team. One team told us: “[We] definitely took away some valuable information that we are hoping to fold into our organization...the event was fantastic and I'm so impressed by how professional [your] entire team is.”

FUTURE PLANS

FUNDRAISING

We have worked to gain support for our program through sponsorships. Last year, our team raised \$63,300, a record breaking amount for us, and we are on our way to raising the same this season. Our team believes we have exhausted our options of finding local grants for sponsorships, so we plan expand our reach to target national companies in STEM fields this year.

ON OUR TEAM

We hope to inspire new members to join the team through our outreach efforts. Additionally, we wish to improve our rookie training process; we believe that better trained rookies will have a ripple effect throughout our team.

Most recently, our engineering members have stepped up their goals to build more competitive robots and be more consistent in our match performance. We also hope to continue working with ORNL to host a local FRC field.

AT OTHER SCHOOLS

We plan to continue mentoring Green Magnet Academy's FLL team and Christenberry Elementary School's Jr. FLL team, and to try to inspire more schools near us to start FIRST teams. We also want to continue to take part in local events and attend more each year.

"OUR ENGINEERING MEMBERS HAVE STEPPED UP THEIR GOALS TO BUILD MORE COMPETITIVE ROBOTS."

FRC TEAM SUPPORT

We hope to continue hosting the Smoky Mountains Regional Business Summit after our non-profit is organized to bring more of our business experience to the table at next year's SMRBS. One of our stretch goals is to get our own lab space by saving money and bettering sponsor relationships.

FINANCIAL STATEMENT

SPONSOR RELATIONS

Our team has preserved strong relations with some of our biggest sponsors, such as Knox County Schools, Bechtel, and the Clayton Foundation. In addition, we have maintained and further developed our relationships with several older local sponsors, such as CNS, the Alcon Foundation, and TVA. We highly emphasize fostering partnerships beyond monetary donations to promote our mission of inspiring the local East Tennessee community with a passion for science, technology, and engineering. We have placed a special emphasis on following through on all of our commitments, and we're proud to have followed through on every single one of our sponsor rewards and promises last season.



Our team took our robot to a company social for Henry & Wallace to show their company what we do and that we appreciate their support.

TRACKING OUR FUNDS

We thoroughly track our contributions and expenses using Quickbooks accounting software. It allows us to see individual purchases and see how much a particular team has left in their budget. It has also allowed us to effectively manage our funds to ensure that we utilize our budget to the fullest extent, while staying within the budgetary parameters and our non-profit guidelines.

This year, our team has worked hard to reach a goal of \$31,000 in available funds for the team. Although it is not as much as last year's income, our business team is constantly working on new grants and sponsorship connections to make the team's goals a reality.

Team/Project	2017/2018 Budget	2017/2018 %of Budget
Emergency / Robot Reserve	\$5,000	16.13%
Mechanical	\$2,500	8.06%
Electrical	\$1,700	5.48%
Programming	\$2,950	9.52%
Game Strategy	\$500	1.61%
Products	\$1,500	4.84%
Communications	\$750	2.42%
Finance	\$300	0.97%
Human Resources	\$300	0.97%
Regional Fees	\$9,000	29.03%
Regional Travel	\$4,850	15.65%
Off-Season Event	\$250	0.81%
Team T-Shirts	\$650	2.10%
Pit Truss	\$750	2.42%
TOTAL	\$31,000.00	100.00%

A snapshot of our budget.

RISK ANALYSIS

Strengths	Weaknesses
<ul style="list-style-type: none"> • Fundraising - Our team has been effectively raising more funds each season. We have also shared fundraising know-how with other teams to great effect. • Community Outreach - Our team is consistently looking out for opportunities to help the community. • Camaraderie - We have high team morale, with everyone eager to be actively involved. • Branding - We have a strong brand presence in our community that is consistent and recognizable. 	<ul style="list-style-type: none"> • Availability - Many of our team members are actively involved in multiple other organizations both at school and in our community. • Stretched Thin - Our team is very outgoing when it comes to activities in our community. This leads to concerns regarding if we have the manpower to commit ourselves to multiple events.
Opportunities	Threats
<ul style="list-style-type: none"> • Diversity Plans - Continue recruiting more female and minority members to our team to promote equity through diversification. • More Than Just Robots - Continue to pursue events such as our Smoky Mountain Business Summit to convey that FRC is more than just building a robot. • Off-Season Workshops - To help rookie members prepare for the intense competition season. 	<ul style="list-style-type: none"> • Large Graduating Class- Many students that make up our current team leadership are seniors who will be graduating in the spring, leaving a gap in experienced leadership. • Lab Space - Our lab space is liable to being moved as it is a donation from one of our sponsors. If for some reason they could no longer sponsor our team, we would not be able to compete in FRC.

ACKNOWLEDGEMENTS

Our team would like to recognize the generous support from our sponsors:

Green Magnet Academy

Bechtel • Knox County Schools • Clayton Family Foundation

Leidos • UT-Battelle • Boeing • Pilot Flying J

Consolidated Nuclear Security • Steel Plate Fabricators

Arconic Foundation • Tennessee Valley Authority • Northrop Grumman • Drayer Physical Therapy

DeRoyal Industries • Steel Plate Fabricators • Sullivan Sandblasting • TNT Powder Coating • Cherokee
Millwright & Mechanical • Dassault Systèmes • SwipedOn • Shoney's