



BUSINESS PLAN

Millennium Falcons Business Plan

0.0 TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY.....	3
2.0	TEAM SUMMARY.....	6
2.1	Basic Team Information	7
2.2	FIRST Values.....	7
2.3	Mission.....	8
2.4	Goals.....	8
2.5	Team History.....	11
3.0	TEAM STRUCTURE.....	13
3.1	Team Structure.....	14
3.2	Community Outreach.....	15
3.3	Financial Plan.....	15
4.0	APPENDIX	16
4.1	APPENDIX A – TEAM JOB CHART	17
4.2	APPENDIX B – TEAM JOB DESCRIPTIONS.....	18



EXECUTIVE SUMMARY

Millennium Falcons Business Plan

1.0 EXECUTIVE SUMMARY

Mission Statement:

The Millennium Falcons of Staley High School endeavor to provide its members with the opportunity to achieve success as a FIRST robotics team, develop leadership skills, seek continuous improvement, and foster the FIRST philosophy of gracious professionalism.

As the team was founded only recently (our rookie season was 2013-2014), the values listed in our mission statement offer brand new opportunities for our students. We strive to give all students a chance to succeed at whatever level they may wish—be it through business, technology, or a variety of other opportunities offered through FIRST robotics. The core values of our mission statement revolve around gaining and developing these skills so that they may be utilized in students' future endeavors. We are careful to stress the importance of leadership, improvement, perseverance, and gracious professionalism to all team members, as these principles are invaluable in real-world business scenarios.

Team Origin:

Staley High School first opened its doors on August 18, 2008. We have boasted a strong PTLW program since the opening; however, we did not have a robotics team until 2013. In August of 2013, with backing from dozens of teachers, parents, and students, the Millennium Falcons robotics team, was founded. We participated in our first season in 2014, for the Aerial Assist competition.

Organizational Structure:

Currently, we have a fairly compact team—around 30 total students—and we work hard to ensure that each student has a relevant and significant job. Our sub-teams include: build to work on the mechanical and technological structure of the robot, business to form and manage the robotics team as a company, programming to program the robot, and competition to scout and learn the rules of the robotics competition. Some students participate in multiple sub-teams, and all collaborate to complete the finalized robot.

Financial Plan:

In order to help fund our robotics team, the North Kansas City School District has generously provided yearly start-up funds to get our team off the ground. These funds have been decreasing by one third each year and will expire after the 2015-2016 season. With this backing about to run out soon, we rely on our sponsors to help bring our robot into reality. We also participate in various school and group fundraisers throughout the year.



TEAM SUMMARY

Millennium Falcons Business Plan

2.0 TEAM SUMMARY

2.1 Basic Team Information

Rookie Year	2014
Location	Staley High School
Team Demographics	28 members (5 girls, 23 boys)
Mentors	7 mentors (2 coaches, 5 professionals)
Sponsors	North Kansas City Schools, Staley High School, Falcon Club, Honeywell, BigRed, Dains Custom Athletic Lockers,
Website	staleyrobotics.com

2.2 FIRST Values

Coopertition® - *At FIRST, Coopertition is displaying unqualified kindness and respect in the face of fierce competition. Coopertition is founded on the concept and a philosophy that teams can and should help and cooperate with each other even as they compete. Coopertition involves learning from teammates. It is teaching teammates. It is learning from Mentors. And it is managing and being managed. Coopertition means competing always, but assisting and enabling others when you can.*

The above quotation was taken from the FIRST Robotics website.

Coopertition is learning through competition; it is the ability to cooperate with other teams to foster healthy competition and skill advancement. The Millennium Falcons always strive to promote Coopertition; the entire point of robotics is to gain skills and networking abilities that are beneficial in real-world scenarios.

Gracious Professionalism® - *Gracious Professionalism is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community. Gracious professionals learn and compete like crazy, but treat one another with respect and kindness in the process. They avoid treating anyone like losers. Knowledge, competition, and empathy are comfortably blended. In the long run, Gracious Professionalism is part of pursuing a meaningful life. One can add*

to society and enjoy the satisfaction of knowing one has acted with integrity and sensitivity.

The above quotation was taken from the FIRST Robotics website. We stress gracious professionalism within our team. Though we always promote healthy competition, we strive to ensure all members showcase a gracious and professional understanding at all times.

2.3 Mission

In order to best explain our mission as a team, our mission statement (see the executive summary) is restated below.

The Millennium Falcons of Staley High School endeavor to provide its members with the opportunity to achieve success as a FIRST robotics team, develop leadership skills, seek continuous improvement, and foster the FIRST philosophy of gracious professionalism.

As an organization, our main goal is to provide a safe environment where all students are able to gain important life and career-oriented skills. These abilities will certainly be useful in any career path a student may choose; they include networking, engineering, and developing. Our students also gain a great amount of proficiency with leadership, teamwork, and business operation.

Along with the many skills we foster within our organization, we also work to help our school and community prosper. We put a major emphasis on both community and school outreach, and we help out with all school and community events that we are able to.

2.4 Goals

In order to ensure the continuous advancement of our team's success, we have outlined numerous goals to strive towards. We have separated these into goals of our previous seasons (2014 – Aerial Assist, 2015 – Recycle Rush) and goals for our current season (2016 – STRONGHOLD). Progress is clearly outlined for all previous goals, and if they were not reached last season, future plans will be listed.

Previous Goals:

2013-14 Goals	Progress
Build a successful FIRST robotics team at Staley High School	We are team 4959 of FIRST robotics. We built a competitive robot for the Kansas City Regional Competition
Recruit mentors	5 mentors and counting
Reach out to gain sponsors	We exceeded this goal by recruiting more than 7 financial sponsors. These include: Black & Veatch, Sprint, the Pittala Family, Dains Custom Athletic Lockers, ASCE Kansas City Section, and Bill Wall
Apply for grants	Applied and received the Rookie Grant from FIRST, Argosy Foundation
Build a firm team foundation for Staley High School's FIRST robotics team's future success	Wrote business plan to promote accountability, structure, and vision
Promote safety	This will be added to 2015's goals
Establish a pit crew	Members of the robotics team were appointed to the pit crew position
Plan strong community outreach	Volunteered at two 5K events to help the fundraising efforts of other non-profits
Teach Java to programming team	We have successfully trained members of the programming team and appointed a new lead programmer, both of which know

	how to work the code and use Java
2014-15 Goals	Progress
Go to a second regional event	We attended the Oklahoma City regional where our alliance placed third and we earned the Judges' Award.
Revise business plan	You are currently reading the revised business plan.
Maintain Argosy grant	We kept this grant for the 2015-2016 year, but it will expire after this season.
Earn a spot to attend world competition	We did not manage to earn our spot at the world competition, but we have gained experience to help us this year!

Current Goals:**One-Year Goals (2015-2016):**

- Work toward self-sustained funding by maintaining current sponsors, seeking additional sponsors and applying for additional grants
- Increase numbers of mentors for programming and building
- Attend a second regional event again this year
- Revise business plan and enter it to earn the Entrepreneurship Award
- Frame and implement a scouting plan
- Acquire parts to build a second robot
- Attend Cow Town Throw Down with revised and improved robot
- Maintain Argosy grant
- Implement middle school outreach initiatives
- Earn a spot to attend world competition

Three-Year Goals (2018-2019):

- Create FTC for underclassmen
- Add and program additional sensors to use on the robot
- Start a robotics camp during the summer for middle school
- Attend world competition regardless of qualifications
- Continually grow our numbers of members, mentors, and scholarships

2.5 Team History

Staley High School was opened August 18, 2008. Around 2012, a few of our PLTW teachers began to rally around the idea of founding a FIRST robotics team. They gained the support of a multitude of teachers, students, and families; with this, they gained approval from the high school and district. The team first met in the fall of 2013. A smattering of students from all walks of high school life, we had one common interest: we liked and wanted to learn more about robots. Our first year was a rough one; many of us were simply along for the ride as our team jumped into the deep end, and we tried idea after idea looking to see what would float. At the end of it all we had a reasonably successful robot. It wasn't fancy or pretty but it worked and that's all we were really asking for out of our rookie year. We used it to gain experience and understanding of how a FIRST robotics season works.

We only attended one regional for our rookie year and placed 30th out of 58 competitors, and third out of the nine rookie teams in attendance: far from nation sweeping but good enough for our rookie year.

In our second year we had a little more experience, and things went quite a bit more smoothly for us. We knew what to expect for the kickoff, the process of build season, and the KC regional. When we attended the 2015 KC regional competition, the alliance we were selected for won 3rd place. We also managed to go to a second regional in Oklahoma City, where we

progressed to the playoff matches as alliance captains and achieved 3rd place. Our team also received the Judge’s Award, which is awarded for “a team’s unique efforts, performance, or dynamics [which] merit recognition.” (FIRST Website, on the Judge’s Award)

Fall / 2013 – The Staley robotics team first met.

January 4 / 2014 – The team met for the Aerial Assist kickoff.

March 23 / 2014 – We finished, bagged, and tagged our first robot.

March 13 - 15 / 2014 – The Millennium Falcons participated in the Greater Kansas City regional competition.

April 26 / 2014 – We helped out with the SCPAKC 5K Walk / Run.

May 3, 2014 – We helped out with the NKC District 5K Walk / Run.

October 9 / 2014 – We presented our Aerial Assist robot at the North Kansas City School District’s fall breakfast.

January 3 / 2015 – The team met for the Recycle Rush kickoff.

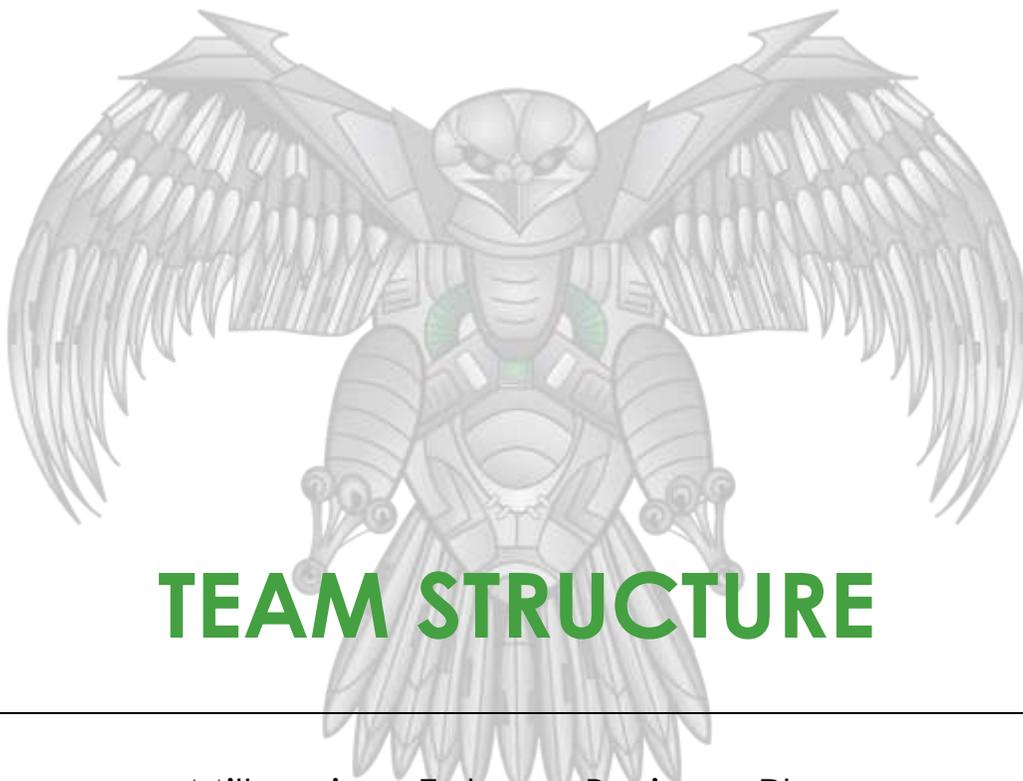
February 11 / 2015 – We submitted our business plan as an entry for the Entrepreneurship Award.

February 17 / 2015 – We bagged and tagged our second-year robot, Green Arrow.

March 12-14 / 2015 – We participated and placed third alliance at the Greater Kansas City regional competition.

March 26-28 / 2015 – We travelled to the Oklahoma City regional and captained the alliance that placed third and received the Judges’ Award.

January 9 / 2016 – The team met for the STRONGHOLD kickoff.



TEAM STRUCTURE

Millennium Falcons Business Plan

3.0 TEAM STRUCTURE

3.1 Team Structure

In order to properly keep order within our team, we have split it into a few cooperative teams and sub-teams. *See appendix for a comprehensive list of leadership positions and a detailed chart of sub-teams.*

Build Team

The build team is in charge of building the robot. They are the main ones who generate ideas while still taking input from other team members. The build team works with maintenance of the robot during competition, and also work with its transportation and storage.

Programming Team

The programming team makes the code for the robot. They work with the build team to learn what all movements and directions must be coded. The programming team also helps the drive team by telling them the controls for the robot. They also work on debugging the code during practice and making changes to the code during competition.

Drive Team

The members for drive team are chosen by tryouts to see who is best at driving the robot. This team also includes our human players. They are the ones who drive the robot during practice to find any bugs or malfunctions, and then they drive at competitions. They also drive the robots at other community events that the Millennium Falcons participate in.

Business Team

The business team works with most of the Millennium Falcons Team aspects that aren't directly related to the robot. They work with keeping track of funds, planning and directing fundraisers, and writing the business plan. They plan and map out the pit for competitions, design the Millennium Falcons Team's t-shirts, and they also manufacture the buttons that are handed out at competition.

3.2 Community Outreach

Staley High School Robotics endeavors to reach out to the local non-profit organizations within our community. Even though we are a relatively new team, we understand the importance of giving back to our community and recognize that by serving with our teammates, we are building team camaraderie. It is important to us that the organization that we dedicate our efforts to is within the school boundaries to help build relationships that truly make an impact within our own community.

3.3 Financial Plan

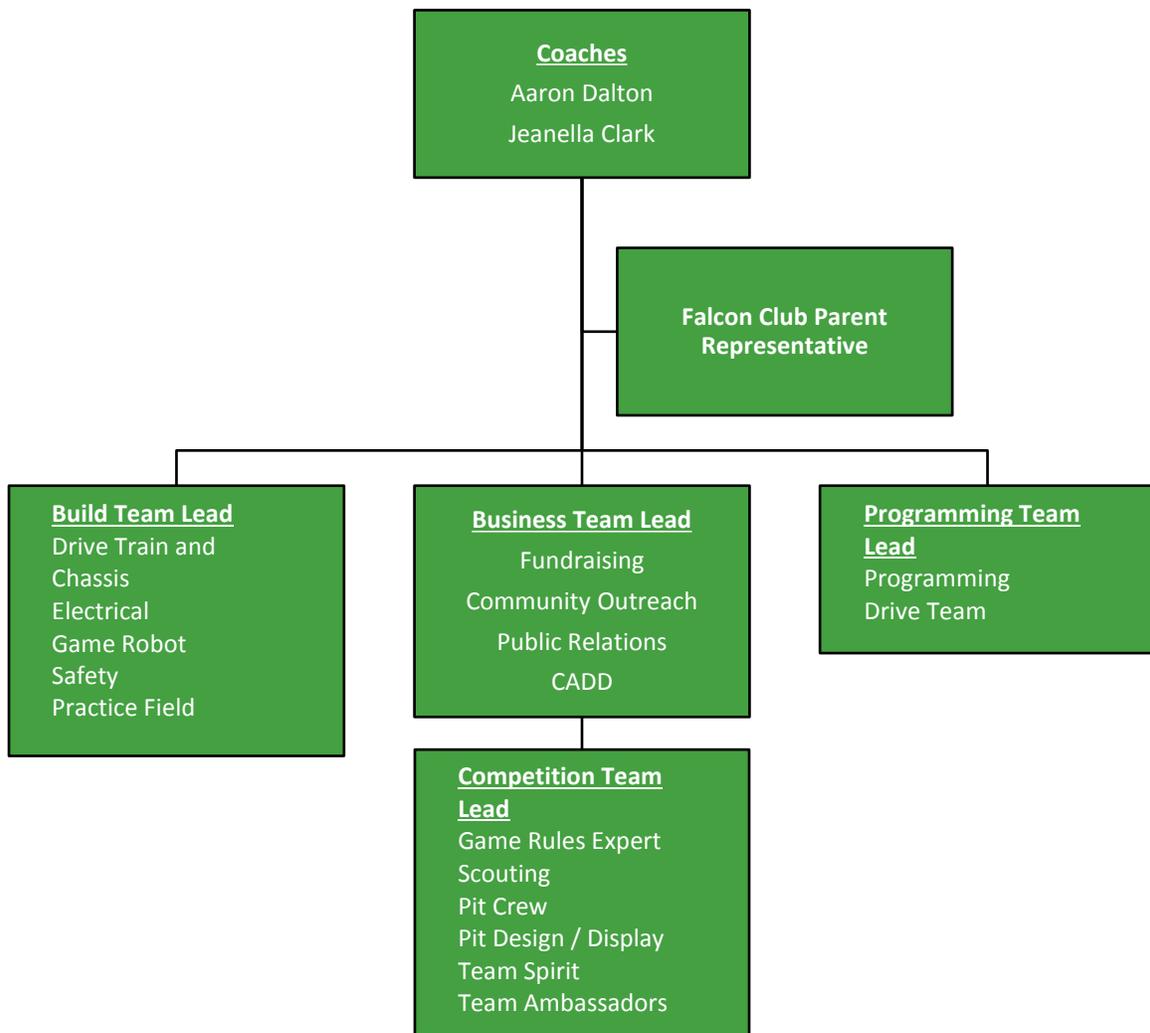
A robotics team is an expensive operation. The Millennium Falcons is very fortunate that, for the short term, the North Kansas City School District has provided generous yearly start-up funds to get our team off the ground. These funds, however, have decreased by 1/3 each year and will expire after the 2015 – 16 season. It is the goal of the Millennium Falcons to establish partnerships with area businesses in order to achieve financial independence through generous financial donations from area businesses and private parties, Staley High School's Falcon Club, fundraising events and grant achievement.

In an effort to bring recognition to our generous supporters in our rookie year and beyond, we established a tiered recognition program. These tiers were instituted to entice potential sponsors to donate more if they would like to achieve a certain sponsorship level. The tier system is outlined on our website. We will continue to use this tool to bring recognition to these sponsors and to show appreciation for their support.



Millennium Falcons Business Plan

APPENDIX A - TEAM JOB CHART



APPENDIX B - TEAM JOB DESCRIPTIONS

Programming Team Lead

- Head of the programming team
- Communicate to members of programming
- Responsible for completed work in programming
- Works and communicates with all sub-team leads
- Teaches programming and can describe the code and networking components of the robot
- In charge of making sure communication to robot is completed and successful
- In charge of drive team supervisor
 - Drive team supervisor
 - Reports directly to programming team lead and coordinates with competition team lead and scouting supervisor as appropriate
 - Responsible for training and educating of all drive team members and aspiring drive team members
 - Ensures that drive team members are productive when not actively driving or performing duties directly related to driving
 - Responsible for strategizing on competition day with other teams
 - Ensures safe transportation of the robot from pit to competition field or practice field
 - An expert at technical communication and must be assertive

Build Team Lead

- Head of the build team
- Communicates and coordinates with all sub-team supervisors and build team members
- Tracks inventory on all parts of the robot and supplies
- An expert at coordination, communication, and productivity
- In charge of safety, electrical, game robot, drive train, and chassis and practice field

supervisors

- Safety supervisor
 - Reports directly to build team lead
 - Responsible for the safety of all team members during build season, at competition, and off season
 - Responsible for ensuring safe equipment use
 - May apply for team safety award(s)
 - Ensures that team has all safety equipment including, but not limited to, safety glasses, closed-toe shoes, battery cleanup kit, first aid kit, etc.
 - Goes above and beyond to ensure safe conditions
 - Reports all unsafe incidences to build team lead and coaches
- Electrical supervisor
 - Reports directly to build team lead
 - Responsible of correct wiring of the robot
 - Educates team members on correct wiring practices
 - Responsible for battery charging and condition
 - An expert at being able to describe the electrical components of the robot
- Game robot supervisor
 - Reports directly to the build team lead
 - Responsible for the mechanical components and mechanical condition of the game and practice robots
 - Advises on the purchase and / or fabrication of the robot components
 - An expert in working with tools, mechanical components such as gears, gear boxes, pneumatics, motors, metal materials, etc.
- Drive-train and chassis supervisor
 - Reports directly to build team lead
 - Responsible for the fabrication of the chassis and the configuration of the drive-train
 - Responsible for the components and condition of the drive-train and chassis on both practice and game robots
 - Advises on the purchase and / or fabrication of all chassis components
 - An expert in drive-train motors, transmissions, wheels, framing components, etc.
- Practice field supervisor
 - Reports directly to build team lead
 - Responsible for the fabrication of a functional practice field
 - Advises on the purchase of materials for practice field
 - May be asked to coordinate with other teams to accommodate practice field time, space, or resources

Business Team Lead

- Head of the business team
- Communicates and coordinates business team members and all sub-team supervisors
- Responsible for business team initiatives, communication in a timely manner, award / grant submission deadlines, fundraising, and community outreach
- Reviews business plan regularly to ensure goal attainment and team mission success
- Responsible for occasional communicating with Falcon Club parent representative
- An expert at communication, coordination, and is extremely organized
- In charge of fundraising, community outreach, and public relations supervisor
 - Fundraising supervisor
 - Reports directly to the business team lead
 - Responsible for assisting with team fundraising initiatives
 - Responsible for maintain relationships with current sponsors and assisting with seeking out new sponsors
 - Responsible for ensuring that sponsors are represented according to their qualified fundraising tier
 - Responsible for the design and distribution of all marketing materials such as scouting cards, buttons, etc.
 - Community outreach supervisor
 - Reports directly to business team lead
 - Responsible for the relationship and the communication to chosen non-profit organization
 - Responsible for initiatives to support chosen non-profit organization
 - Responsible for rallying team member support for chosen non-profit organization
 - Responsible for documenting support of chosen non-profit organization
 - Public relations supervisor
 - Reports directly to business team lead
 - Responsible for all types of communication
 - Twitter
 - Blog
 - Newsletter
 - Website
 - Responsible for taking photos and videos of all team activities
 - CADD team supervisor
 - Reports directly to business team lead and coordinates with build team lead and competition team lead
 - Responsible for all CADD drawings related to the robot for marketing purposes

- Must be an expert in AutoDesk Inventor

Competition Team Lead

- Head of competition season logistics and operations
- Responsible for smooth “game day” strategies and outcomes
- Responsible for ensuring that all materials, supplies, parts, etc. are present and accessible at the competition
- An expert at coordination and is detail oriented. Must also be adept at soliciting help, support, and enthusiasm
- In charge of scouting, pit crew, pit design / display, team spirit, and game expert supervisors
 - Game expert supervisor
 - Reports directly to competition team lead
 - Responsible for thorough knowledge of current game rules, regulations, and robot specifications and be able to communicate them on the spot
 - An expert at research and must be able to assertively communicate
 - Scouting supervisor
 - Reports directly to competition team lead coordinates with drive team supervisor
 - Responsible for the development of the scouting plan before the competition, implementation of the scouting plan and building potential alliances at the competition
 - Responsible for getting help with collecting data at the competition
 - Responsible for representing the Millennium Falcons in picking alliance teams, should the occasion arise
 - An expert at collecting and sorting data
 - Pit Design / Display Supervisor
 - Reports to competition team lead and coordinates with business team lead
 - Responsible for team attire at competition including team t-shirt, uniform, costumes, props, pit representative’s polos, etc.
 - Responsible for planning and execution of team spirit success
 - Pit crew supervisor
 - Reports to competition team lead
 - Responsible for the smooth operation of the pit including determining necessary / unnecessary pit personnel, pit tidiness, posting competition schedule in prominent location, etc.
 - Team Ambassadors
 - Team ambassadors report to pit crew supervisor and coordinate with programming, build, and business team leads
 - Represent the Millennium Falcons at the sole communicators to

- judges and public visitors at competition
- Responsible for expert knowledge of all aspects of the robot and business initiatives
- Must be present in the pit at all times
- An expert at persuasive public speaking, communicating technical information in everyday language and well-versed in business initiatives