



Entrepreneurship Award Submission 2018

**can only be 1600 characters long per section (includes spaces and punctuation)*

Mission Statement:

Questions to answer: What drives your team? What does your team strive to accomplish?

Our mission statement is: "Created by God to Pursue Excellence!" Our definition of excellence does not mean, "win at any cost," but it's about the journey in the end that matters. We use real-world experiences to inspire self-confidence, communication and leadership so students can be prepared for a STEM career. Engineering Projects In Christ (EPIC) drives us to persevere even when the odds are against us.

Using advanced curriculum and deliberate hands-on project-based learning initiatives such as FLL, FRC, CAD, 3D Printing, CNC machine, web design, public speaking, and others, we equip students with demonstrable and marketable skills that enable them to succeed in STEM careers.

EPIC Robotz creates complex yet elegant robotic solutions. We also provide a place where young people can grow and learn new skills and abilities that they would not have the opportunity to learn in a traditional classroom setting. Allowing a "hands-on" environment gives students an experience that a classroom setting doesn't; confidence in the ability to create! Our mentors share their professional knowledge about mechanics, engineering and business with our team, and as a result, are developing a legacy at VCHS for this "Varsity Sport of the Mind."



Team Origin:

Questions to answer: When did your team form? Location of team? Current number of team members? Growth? Challenges that needed to be overcome in order to participate in FIRST events?

It all started with Legos! In 2008, Paul DeVries, a dedicated father and Boeing engineer started an FLL team in his living room in order to inspire young people to pursue science and engineering opportunities. A few years later, in 2012, he took those same students and started an FRC team at Valley Christian High School, in Cerritos, California. There were many hurdles to overcome; school support, classroom space, financial support, a lack of team members and mentors, etc... and as a result, for the first two years we partnered with Team 4123, the BOMBots.

In 2014, we had an answer to our prayers; we gained the school's assistance by receiving classroom space, student interest tripled and so did our mentor base which allowed us to create our own team, the EPIC Robotz-Team 4415. In our first season we had 49 students and 11 mentors. As of 2018, we have a total of 35 students: 29 boys and 6 girls. We also have a total of 19 mentors, of which 13 are full time. Although the number of participating students may have decreased, our number of dedicated students has increased allowing our team to thrive. It's been an EPIC journey ever since!

Walking into a sports driven school was no easy feat. Receiving recognition as the "Varsity Sport of the Mind" took many years of dedicated students, parents and mentors proving to our school board that a STEM program was important. From an old chemistry lab transformed into the Makerspace we have today, to teaching college engineering courses on campus, FIRST has provided us a way to get students interested in STEM.



Organization structure:

Question to Answer: How is the team structured to Raise money? Ensure funds are properly spent? Find and engage sponsors? Recruit members and mentors? Ensure *FIRST* principles remain core to the team?

“...one body, many parts....” Our funds come from student registration fees, sponsorships and grants. We also obtain donations within our VCS community and family friends. We deliver presentations to our sponsors and provide them with team updates as well as invite them to our workshop to tour the facility. We occasionally hold fundraisers at local parks, introducing FIRST and Robotics to families while we raise funds for our team.

On March 31, 2017, our school held its Annual Fundraising event and our Robotics program was chosen to be the top “fund a need.” We were able to raise \$33,500 for our program and share with family investors what FIRST has done for us.

Mentors are found by recruiting family and friends of team members. Our biggest sponsor as of this year is Disney, who donated \$5000. We also require parents of team members to volunteer in some aspect as this promotes long term mentorship. Our mentors are valued members of our EPIC family.

Due to our outstanding FLL program, we have about 10 new freshman each year. We also hold periodic “show and tell” nights where everyone from the school is invited to see what we’ve accomplished throughout the season, which sparks interest in prospective students.

FIRST’s principles are much like our Christian principles. We’re always happy to lend a helping hand when called to do so. As a team, we show each other Gracious Professionalism by working together, showing respect, making sure everyone has a voice, and that we glorify God while doing it. It’s EPIC how we all get along!

**Upload Organizational Chart



Relationships:

Question to Answer: How does your team engage, inspire, educate and retain Team members, Mentors, Sponsors, and the community?

EPIC Robotz is a close-knit family that students want to be a part of, actually, it is the most popular program on our high school campus!

To help retain dedicated team members, we recognize their hard work at our Robotics Awards Banquet. We also award a Varsity Letter to students who meet team membership requirements such as: community involvement, academic excellence, team attendance, and skill competencies. In addition, we want our team members to do what they love. As a result, we hold an FRC Boot Camp in the fall. This allows students the opportunity to explore each guild to determine what area of robotics they are interested in pursuing. They receive an introduction to FRC and FIRST and decide if they want to compete with us. This has proven to be fruitful as we've never had a more dedicated team.

Our hardworking mentors come from all walks of life; from employees at Boeing, to a Disney Guest Claims Administrator, to retired build shop owners. To retain our mentors and sponsors, we send team updates, thank you letters, and thank you plaques signed by our team members, to show how much we care and appreciate them.

Along with appreciating our mentors and sponsors, our team enjoys engaging in outreach in the community. We hold open houses, demonstrations at local libraries, and participate in numerous local festivals to spread the mission of FIRST throughout the community. We also participate in Fleet Week, an event where we demonstrate and share our robot with the public and we host multiple kids coding camps in order to inspire the next generation of STEM students.



Deployment of resources:

Question to Answer: How the resources (financial or otherwise) have been deployed to engage the community to spread first? Inspire others to get involved in first so that first continues to grow? Ensure all team members get the most out of their experience?

EPIC Robotz has grown tremendously through the years. This is due to the hard work of our students, mentors, our sponsors, and the use of our resources to spread the mission of FIRST to the community. We pour a great deal of energy into developing new ideas for growth, not only for our team but for the FLL teams we mentor and how we can influence the community around us.

Many of the resources given to us by our sponsors are used for events, festivals, CAD classes, summer robotics camps as well as new equipment such as a new CNC machine, tools, and robot parts. We also use the money for marketing purposes by purchasing EPIC Robotz swag to hand out during our events. In the past years, we've given out EPIC foam swords and EPIC carpenter pencils. This helped us draw the attention of students and parents and allowed us to educate them on FIRST.

We also hold countless open houses. At these open houses, we demonstrate some of our previous robots, along with vex robots that we use to interest the kids. We also set up a booth with our awards, merchandise, and information about our team. We always encourage students to try robotics as it is a wonderful learning experience.

We strive to ensure that our team members get the most out of their experience. We want our students to be able to use the skills they have learned to pursue a career in their interests. Our knowledgeable mentors, are willing to share their expertise with us, which gives our teammates the most out of their experience. Several of our alumni have gone on to flourish as successful engineers.



Future plans:

Question to Answer: Specific plans the team has for the next 3 years in regards to sponsorship, team, and community outreach. How do you expect to be able to accomplish these goals?

Our immediate 1 year goal as a team are to mentor our FLL teams in the fall, participate in additional STEM festivals, share our Makerspace with other FRC teams, and expand our sponsorship network by calling on additional engineering companies and utilizing who we know within our own community.

To accomplish these goals, our team needs to work on expanding our reach. In order to be able to mentor FLL teams, we will set aside time and people to help each week. Participating in more STEM events means we need to start researching places to demonstrate our robot. Also, by reaching out to new teams, we may be able to share our Makerspace.

Our long term goal is to continue to spread the message of FIRST for years to come. We plan to implement a four year engineering track at our high school. This will provide us with a full time teacher/mentor which we currently do not have. Last summer we started a dual enrollment program with Cerritos College to provide our students additional STEM opportunities. Despite extensive time and financial constraints, we wrote a proposal, worked with college personnel, recruited students, helped raise money to purchase computers and equipment, and one of our mentors taught the college course, Principles of Engineering Technology (ET 101) right on our high school campus! Due to its success we are already planning on teaching a new course, Introduction to Engineering Design (ENGT 103) this summer. Our long term goal is that by the time our students graduate they will have the opportunity to take four engineering college courses.



Financial Statement:

Questions to Answer: info for team finances (financial statement detailing income and expenditures). OR picture of team financial plan

While we are considered a school sponsored team, financially we are completely independent from our school as they are unable to financially support us with any resources beyond our classroom space. Therefore, we are incurring capital expenditures to ensure the long term goal of making sure our program can sustain itself in the future. Our income comes mainly from the following sources: sponsors, grants, team registration fees, fundraising, and volunteer income. Our goal at the end of each season is to maintain an ending balance that will sustain our program should we incur an unexpected change such as the loss of a sponsor or decrease in volunteer income.

Our starting balance for the 2017/2018 season was \$22,450. Our total estimated income through January 2018 is \$60,020. This includes a Disney Grant (\$5000), student registration fees from Fall and Competition season (\$24,770), Volunteer Income (\$6,250), and various in-kind donations (\$24,000). Our Robotics program was also able to raise \$33,500 from family investors at an annual fundraiser where our Robotics program was the top “fund a need” group. We are expected to spend \$58,500 during the competition season and our goal is to carry over \$20,000-\$25,000 for the next fall season to help with unexpected expenses. This does not include a \$3,500 Boeing Grant for our Team Competition Registration Fees paid directly to FIRST. For a further breakdown of our non-recurring and recurring expenses, please see the attached Team Financial Statement.

**Upload Financial Budget



Risk Analysis:

Questions to Answer: team's risk mitigation plan. SWOT analysis OR a narrative that describes the team plan to identify and respond to sustainability threats.

For the 2018 season, we completed a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis. The key items from the SWOT are attached.

From our SWOT, we designed a few action plans to address the key issues identified. To help seek out additional sponsors we plan to create a sub-team to focus on sponsorship growth. In the meantime we have been proactive in asking companies for donations and have been reaching out to family friends who have companies that can assist us. This year alone, we have obtained 5 new sponsors this way. We have also agreed that keeping in touch with our sponsors through social media, along with a yearly newsletter, presentations and "thank you" plaques will help keep our name in the forefront of their minds.

In order to obtain additional Mentors, we are constantly sharing the message of FIRST and sharing the benefits of being a part of a STEM curriculum. To obtain new programming mentors we advertised on our Facebook page and within our school community about our needs and we were able to receive 2 new programming mentors. We still have room to grow in this area as new mentors are constantly needed.

Due to our ongoing efforts and acting on the opportunities we have, we are slowly growing our program.

Pictures:

FIRST requests 4 pictures be uploaded. These should be 5" x 4" images, 100 dpi resolution and be either .JPG or .GIF files. Two of these may be the Organizational Chart and/or the Financial Statement.

1. Team Picture
2. Mentor Picture
3. Picture of mentoring to young students
4. SWOT/Risk Management