The Guide to

EntrepreNERDship

**Nerd Herd
Team 687
camsROBOTICS**

FIRST

GUIDE TO ENTREPRE**NERD**SHIP

Although there is a heavy emphasis on engineering in the FIRST Robotics Competition, the Nerd Herd believes that teams should have a separate administrative team whose goal is to ensure that the teams run efficiently and successfully. The administrative team manages all non-build aspects of the team, including finances, organization, publicity, etc. Having this sub-team is greatly beneficial to the Nerd Herd as it allows them to easily execute tasks and ensures that the engineering divisions maximize their working time during the build season. Teams who lack an administrative team may find it difficult to accomplish their goals without guidance on the ins-and-outs of management.

To help teams competing in the FIRST Robotics Competition, the Nerd Herd has put together the Guide to EntrepreNERDship. This comprehensive manual will allow people to gain insight into how to organize and manage their robotics teams in a business-like manner. With our guide, we hope to help as many teams as possible develop and/or strengthen their administrative component.

Whether their administrative team is up-and-coming or has a long history of success, the Nerd Herd hopes other teams will find the information in this guide useful in helping their teams run effectively and professionally.

Feel free to contact the Nerd Herd by visiting:
www.camsrobotics.org

Best Wishes!
The Administrative Team

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ESTABLISHING
THE
TEAM

E very team has unique qualities; however, in order to effectively cement your team's individuality, you must first properly establish your team. The Nerd Herd goes back to the basics to describe the importance of organizing a robotics team in an effective manner so that operations run smoothly and team goals are easily recognized.

Authorization & Permission

SUPPORT

Students and staff should establish a professional relationship allowing the administration sub-teams to deal with significant matters such as finances, registration, and reservations.

A discussion with the coordinators could reveal opinions about several important subjects such as: goals, prospective leaders, and number of needed members; it could also aid in designating a workplace.

REQUIREMENTS

Teams may have to meet prerequisites before getting off the ground. For example, if a robotics team is considered a club at a school, it will have to meet the club requirements set by the student government. Some student governments require clubs to create constitutions, record club minutes, and/or provide detailed information about the clubs' structure and purpose. Make sure the team understands what is expected and meets all expectations. A copy of the Nerd Herd's club constitution can be found in the Appendix on page 35. Here is a short list of questions that should help identify problems and solutions:

- Where will meetings be held?
- How often will meetings be held?
- How long will meetings last?
- Who will lead the administrative side?
- How many members are needed?

Team Identity

MISSION STATEMENT

The mission statement effectively creates a positive image of an organization and defines the goals of the team as a whole. It is important because it further details the purposes of the robotics team. It allows companies and other organizations to learn what a team wants to accomplish and take away from the experience of FIRST Robotics in a simple, concise manner. All members, whether on the administrative or engineering components, must strive to meet and exceed the goals laid out in their mission statement. The mission statement is integral to establishing a team identity.

A good mission statement is short and to the point. It is comprised of practical, realistic goals that all members can strive to meet. To give an idea of what to include, we have included the Nerd Herd's mission statement:

"To offer students and the community the experience of exploring real world engineering and business opportunities while cooperating with one another to produce a winning robot and inspiring an appreciation for science and technology."

LOGO/MASCOT
Team symbols promote a team's spirit and give the team an identity. Logos should be aesthetically pleasing and contain little text. It is important to keep team symbols consistent in all team literature so as to maintain a lasting visual impression. Mascots may stem from the logo design. If the logo has a significant image, it is recommended that the image is the foundation of your mascot.

The following are the Nerd Herd's logo:

Team Structure

DIVISIONS
Organizing and dividing a team into sub-teams, increases productivity and efficiency by dividing big tasks into smaller tasks.

The Nerd Herd recommends separating the team into the following divisions:

ADMINISTRATIVE SUBDIVISION: All teams that take care of non-build related affairs including, but not limited to: management, fundraising, financials, sponsorship, media, website, and publicity.

ENGINEERING SUBDIVISION: All teams that work on the robot and that are responsible for the creation of strategies for the year's competition.

Within these divisions sub-teams should be created. Sub-teams are composed of members who specialize in certain tasks such as programming, web design, and electrical. These divisions speed up the build and administrative processes by splitting up the responsibility among all the members.

Consider which sub-teams should be created. Is it necessary to create separate teams for programming, electrical, or drive? Should there be separate teams for the website and for other media, or would it be best to merge the teams? Brainstorm sub-team ideas and create a list of pros and cons for any and all approaches.

Each sub-team should have set goals. By doing so, the teams will have a better understanding of what they need to accomplish. A written statement will also provide insight about necessary interaction among the teams to reach the goals. Although teams are divided, it's important to ensure that the whole team communicates on a regular basis (see team structure in Appendix on page 35).

Leadership

All sub-teams need leaders. Leaders provide each sub-team with direction and teach members the necessary skills to perform every task. Leaders are also the main communicators among the sub-teams and the chairpersons.

There are two important types of leaders in a team: chairpersons and sub-team leaders.

CHAIRPERSON
A chairperson is the main student leader of a club. If a team is separated into divisions such as administration and build, it is important to delegate a chairperson for each. Chairpersons will oversee all sub-teams under their respective division to make sure they are on task and performing efficiently. The chairperson constantly communicates with the team coordinator to give team updates and to talk about sub-teams' needs and goals.

SUB-TEAM LEADER
Sub-team leadership, a more intimate connection, requires constant communication with the members on a certain team. Sub-team leaders have direct contact with the people they oversee. The leaders are required to teach their members skills essential for completing their tasks. Sub-team leaders are to report to their chairperson.

SYSTEMS (Optional)
Teams may want to appoint a systems leader whose position is directly under that of each chairperson. The systems leaders on the administrative and engineering sides follow the directions of their respective chairs. Essentially, systems leaders are in charge of executing, while chairpersons create the plans.

REQUIREMENTS
Leaders should not be people who are new to FIRST. Leaders must have a solid knowledge of their duties and goals. The Nerd Herd recommends that leaders have been on the robotics team for at least one year. This is to ensure that the prospective leader has a feel for the workload and responsibilities. It is up to a team to judge what level of experience a person needs should she or he be a leader. If a desired leader lacks experience, you may want to find a mentor who can help the sub-team.

Expanding the Team

ANNOUNCEMENTS
Announcements are important for budding teams and for teams who want to recruit members for the next year. Announcements inform students about team applications and recruiting events. To get the attention of many of your school's students use mediums such as social media, school bulletins, website, posters, or word of mouth.

The main goal is to make robotics sound appealing. A team may want to stress the fun aspect of joining robotics, such as hands-on learning and bonding amongst the members. Do not emphasize any details that may detract potential members (i.e. team dues, time consumption, etc.). It is important that the students understand these details, but for advertising purposes it is best to be subtle about them.

Think about other objectives for the advertisements. Are you in need of members for a certain sub-team? Are you looking for a webmaster for your team's website? Do not limit

your advertisements to students. If your team needs mentors, announce this to the student body so that they make contact with adults who can help your robotics team.

OPEN HOUSE (INFORMATIONAL EVENT)
The Nerd Herd suggests that your team has an informational event, such as an open house, to introduce prospective members to FIRST Robotics and your team. It is imperative that you plan ahead. Give the teachers and student body at least a month's notice about the open house. Doing so will allow students to fit the event in their busy schedules and will most likely boost attendance at the open house.

For these informational events, the team members should plan the presentation. Try to get as many students involved in the presentation as possible because you want to show that your team is student led. Students want to be a part of a team in which they can actively participate and stay busy. This idea will not only appeal to students, but to adults as well. Some suggested topics for your presentation:
- Intro to FIRST (FIRST Robotics Competition, FIRST Tech Challenge) and to your team
- Team demographics, structure, & sub-teams
- Current leaders, mentors, coordinators
- Media (pictures, videos, etc.)
- Past experiences (robots, regional events, and member testimonials)
- Team events/fundraisers
- Expenses
- Requirements (include team dues, if any, meeting times and dates)
- Applications
- Question & Answer (Q&A) session

Tip: Open house event is a great time to pass out team applications. Make sure to stress the application due date.

Applications

PAPER APPLICATION
Applications to join your robotics team should be available by the time you host your open house or informational event. Here is a list of suggested content for your application packet:
Cover letter: The first page of the application should be an informative letter that effectively

introduces your team and FIRST to students and parents alike. Important topics to mention in the letter include your team's mission statement, a brief history of your team, and a description of what your team looks like today. The first page should also include the application deadline.

INTRODUCTORY QUESTIONS
These questions are meant to gain insight about an individual's personality. Ask questions such as grade, extracurricular activities, GPA, events, competitions, and any other obligations that may conflict with robotics meetings.

ROBOTICS-RELATED QUESTIONS
Ask for any prior experience in robotics sub-teams. Find out why a student is interested in your robotics team in general and why they are interested in a specific sub-team.

TEACHER RECOMMENDATIONS
Create a separate sheet for teachers to fill out about the student. Consider asking about qualities such as cooperation, timeliness, leadership, work ethic, etc. Teachers should fill out the recommendation in private. Do not allow students to submit recommendations from the teacher. Instead, collect the recommendations directly from the teacher.

An example of our Nerd Herd application is in the Appendix on page 35.

INTERVIEWS
If your team chooses to hold interviews, inform the prospective members of their appointments at least two weeks before their appointed date. Students chosen for interviews should be ones whose applications show that they have the potential to be an effective team member. By interviewing each applicant, you will get a good idea of how they will affect and benefit the team. You will also obtain a good idea of the applicant's level of enthusiasm, dedication, and desire to learn and teach.

NOTE: Your team should not decline an individual from joining your team because she/he lacks experience. Your team's job should be to inspire and teach others about robotics.

GENERAL INTERVIEW QUESTIONS

PARTICIPATION
- Why do you want to be a member of our robotics team?

- What is your desired career? What about the career appeals to you?
- What are your hobbies?
- Are there any other aspects of the team that interest you? (Ask if person is specific about a desired membership on a particular sub-team).

PRIOR EXPERIENCE
- Why are you interested in the _____ aspect of the robotics team?
- What prior experience do you have that pertains to the robotics team?

SCHEDULING
- Do you believe that any of your summer or weekend engagements will interfere with meetings outside of school hours?
- It also seems that you plan to participate during the academic school year. Do you believe that any of your plans will conflict the meetings or work of robotics?
- Will you have reliable transportation to take you to and pick you up from meetings?

MISCELLANEOUS
- How do you feel about working in groups?
- How do you feel about delivering presentations to major corporations like Northrop Grumman, or interacting with them, for example, calling to find out information or make confirmations?
- Do you have any last comments, questions, or concerns?

ACCEPTANCES/DECLINES
Your acceptances should not only be based on the interview alone. Be aware that many knowledgeable and valuable members are shy which could hide their passion for robotics. Don't solely focus on the presentation, but also focus on the substance of it.

There are several ways to send prospective members their status information. The most practical method is to e-mail the applicants. If your team wants to go for a more personalized approach, writing letters is a good alternative.

Sub-team Selection

ORIENTATION
The Nerd Herd recommends that your team have an orientation for all sub teams, giving members an opportunity to get exposure to sub-teams that would be otherwise overlooked.

There are several ways to organize an orientation:

- All members rotate among workshops for all sub-teams. This gives everyone equal exposure to the whole of your team.
- Your team may wish to have two different types of workshops: one encompassing all build-related sub-teams and the other all administrative sub-teams. Members may choose to be a part of either.
- Allow students to choose which workshops to attend. Students are then allowed to choose preference between sub-teams. Your team can extend the duration of each workshop and limit students to their top options.
- Create a schedule. If applicable, create groups for students to stay in during orientation.

SUB-TEAM SIGN UPS
Sign-ups should occur after an orientation, if your team decides to hold one. Students should feel free to sign up for whichever team they desire; however, not all members will gain membership to that particular team. It is wise to have members rank their sub-teams if such a situation occurs.

The Nerd Herd administration believes that the most effective way to have members sign up for sub-teams is to display a physical list of all teams in a designated area. Arrange the list so that students may write in their names under their desired sub-team. Keep in mind that you may want to impose a limit for how many students sign up for a particular sub-team. You can denote limited space by writing a numbered list under each sub-team's sign up list. Using this method, your team minimizes confusion by keeping all sign ups on one (or a few) list(s).

Individual sign-up sheets may be a hassle because of the potentially large amount of paper your team receives. Papers may get misplaced which will affect the speed of final decisions and cause confusion.

LEADER DECISIONS

If space is limited on sub-teams, leaders should ultimately decide who gains membership. After reviewing the sign-up sheet(s), leaders should have a meeting to discuss members' strengths and weaknesses. They may find that a student is better suited for another sub-team.

Contacting Team Members

ROSTER

A roster is arguably the most important administrative document a team can have. The roster is a confidential document that provides team members with appropriate and necessary information about a specific member.

The Nerd Herd's roster includes the following information:
- Last and first names
- Grade level
- Sub-team and position (if applicable)
- Primary phone number
- E-mail address
- Screen name

E-MAIL GROUPS

Create an e-mail group (such as a Google group or Yahoo group) to connect all robotics members via the internet. It is a useful tool for making mass announcements as students in this age heavily rely on the Internet for information. Mandate that all members join the group so they can stay informed about the team's events.

Mailing lists are another alternative, but they do not offer the same functionality.

MANAGING
THE
TEAM
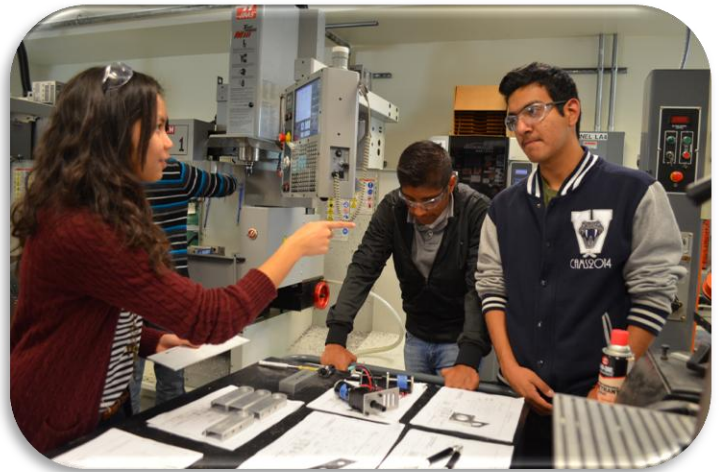
The common stereotype says that engineers are disorganized. While this may hold true for many robotics teams, having an administrative team can help combat this problem. The management, the guidance, and control of action required to accomplish a certain goal, is a critical aspect of maintaining a successful team. Without a method of managing the team, financials will be difficult to keep track of which often leads to confusion, the loss of money, and complaints. Matters, such as organizing your workspace, setting the budget, collecting money, filling out all accounting forms, and dealing with deposits and withdrawals, all of which are necessary actions, are explained further in this section.

Organizing Your Workspace

It is essential that both the build sub-teams and administration sub-teams have a designated area of operation and that these areas are kept neat and organized.

ADMINISTRATION SUB-TEAMS
The administration sub-team needs to work in an area full of computers, printers, fax machines, office supplies, etc., as if they were actually in an administration building. CAMS Robotics administration sub-teams, for example, work in both the computer labs and conference rooms within their school administration building. The computers and printers are used to print out invoices, online purchases, and as well as team updates for the build sub-teams.

A whiteboard or a projected computer screen is also desirable while brainstorming potential fundraisers or guides. A moneybox, receipt books, ledgers, receipt holders, and other sorts of financial documentation ensure organization when dealing with the finances of your robotics team.

It is also necessary that the administration sub-team works within the area of the build sub-teams, in order to ensure proper and thorough communication. Although both sections of your robotics team do separate tasks and operations, a well-established bridge of communication should unite the two teams together to guarantee success.

TIPS FOR ORGANIZATION All the files, such as receipts, reimbursements, and purchase order forms that have already been processed should be put into a common documentation file or folder, for easy referencing. There should also be an electronic copy of all the files that have been processed.

Files that have not been processed should be separated into their respective category in a file or folder of unprocessed files. This will avoid future confusion and disorganization. CAMS Robotics administration team uses a filing cabinet for their previously processed files as well as documentation of past events, while the currently processed documents are kept within an administration binder.

THE BUILD SUB-TEAMS
The build sub-teams need an area where computers are readily available and all the hardware and materials are present. Computers are necessary in order to fill out the purchase forms that will be given to the Administration sub-teams. After the build sub-

teams have made their Bill of Materials, they will be able to legally purchase those materials on behalf of the robotics account so that they can begin constructing their robot. The build sub-teams are also able to review the online manual as well as the team updates electronically.

Hardware and material availability is an important aspect of building a running robot. The work area should be free of clutter in order to assure student safety and maximize work efficiency. Transportation of materials should also be easy. The build sub-team's work area should have a whiteboard or projected computer screen as well, in order to be able to fully express their creative elements which include possible robot designs. This ensures effective communication and eliminates any confusion that the students may have.

Their area of operation should also be within the vicinity of the administration sub-teams. CAMS Robotics build sub-teams, for example, work in a classroom that is an extension of the office. Since the administration team works within the office, communication is fairly easy.

TIPS FOR ORGANIZATION: Certain parts of the robot, such as the drive system, the electrical board, or the main body, should be worked on in separate sections of the workplace so that no materials and tools get caught up in a mess. Although each part is worked on in separate sections of the workplace, they still must be located nearby so that each team will be able to communicate their ideas, and make sure each team is on-task.

The build sub-teams' paperwork should also be kept in a place where both administration sub-teams and build sub-teams can easily access them. If one team has the files the other team needs, there would be confusion and time would be lost. By keeping a common folder, the administration and build sub-teams will be able to know what each division is working on and can assist accordingly.

Setting a Budget

It is important to set budgets before the FIRST kickoff. This should be the first thing your team does. Have a meeting with the team leaders and discuss your total budget and how you're going to split it up. If you are a rookie team, then talk to team coordinators and team mentors about allocation of funds. They should already know what the team will need to spend money on. Consider what you need to build your robot, but also consider setting aside some of the money for promotional items and travel expenses. If you are not a rookie team, then look at your team's financial history. Look at what has cost the most in previous years. Don't forget that you might have some unused materials from previous years that could reduce your team's expenses.

If your team has sub-teams, discuss how much money will be divvied up for each sub-team. Doing this will prevent your team from exhausting all of its capital. Make sure that all expenses that will be reimbursed come with a receipt, otherwise you shouldn't have to reimburse anyone.

COLLECTING MONEY
Collecting team dues can offset many of the costs of a FIRST team such as registration, travel accommodations, and robot parts. If your team decides to have members pay dues, you must consider the amount each member will pay and where the money will go. If you're planning to spend money on travel and/or registration, you should collect more money to pay for other team necessities such as t-shirts, banners, etc.

After you've decided how much dues will be, plan the date you will collect the dues. If you plan to collect any amount over fifty dollars, give team members an advance notice and a prolonged period to be able to obtain that much money. Some members may need to fundraise or work to make the amount required. Don't forget to give them fundraising ideas (e.x. selling candy, holding car washes, etc.). The Nerd Herd suggests that you collect all money upfront. If you allow members to pay in installments over a prolonged period, you can expect people to forget when to pay. Remind members when and how you want them to pay. Some schools will not allow people to pay large amounts in cash and will only accept checks. If you do not wish to collect member dues, consider alternatives for fundraising.

Receipts, Ledgers, and Accounting

Keeping track of incoming and outgoing money can be difficult. The most efficient method to keep track of money is to have a ledger. A ledger is a special notebook sold in office supply stores that records monetary transactions. Using a ledger will help you keep track of the amount of money your team earns and/or spends.

Description	Date	Withdrawal	Deposit	Balance
Lunch - Pizza	09/22/2011	$60.00		$100.00
Halloween Night tickets.	10/26/2011		$300.00	$400.00
Build tools	01/07/2011	$100.00		$300.00

A good ledger will have columns for balance, withdrawal, and deposit. It should also have columns for date and description. Your balance is the total amount you have in your account .The deposit column is where you keep track of incoming money. The withdrawal column is where you keep track of outgoing money. The description is where you write what the deposit or withdrawal came from. Make sure you always write down the date of the transaction in the date column.

The ledger only works if you have a team account with your school and/or a moneybox. A moneybox is exactly what its name implies - it is a box that stores your money (usually petty cash). It is ideal to have at least one hundred dollars in a moneybox for quick access to cash when your team needs it for things such as buying tools or lunch. You should never have more than three hundred dollars in your moneybox at any time. Remember to use a ledger to keep track of all outgoing and incoming money. You must always know how much money is in it. Most importantly, you should always keep the ledger and moneybox in a safe place.

Another essential for your team is an accounting notebook with all receipts, purchase order forms, and ledgers. It is important to keep it in chronological order. If you have team members fill out purchase order forms before purchasing anything for the team, staple the receipt to the corresponding purchase order form. If you need to reimburse someone for a purchase, make sure they hand you an original copy of the receipt. Make a copy of the receipt that you hand back to them along with the appropriate monetary amount. Once you finish, write "Done" on the top of the original receipt and sign it with the date to keep track of reimbursed receipts. Then put it into your accounting notebook.

Reimbursements
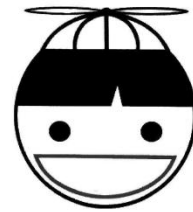
If members want to get reimbursed for their purchases, make sure they present you a receipt. Strictly enforce the receipt requirement because your team should have an accurate account of where the team's money is going. On the ledger, the Nerd Herd suggests you write down: Reimbursement - Person's name - Item for the applicable row's description.

ACTIVITY
PLANNING

Planning events can be a hassle, but it can definitely benefit your team by giving it additional publicity and profit. Planning activities is an essential role in financing and accommodating the team. Such activities include long distance trips and fundraisers. Profit is made from fundraisers and is then used to fund team trips to regional competitions or other expenses for the robot. Events can also reach out to the community. For instance, the Nerd Herd's Bots by the Bay featured VEX, FRC, and ROV robots at Cabrillo Beach. CAMS's open house and Taste of CAMS reaches out to the younger generation as well. All in all, activity planning is great for fundraisers, essential for planning trips, and beneficial to the community.

Planning Events

Events assist in profiting the team through food and ticket sales. Furthermore, they are enjoyable experiences for both the team and the guests. However, creativity and extensive planning should be made weeks beforehand, to guarantee a successful event.

FUNDRAISERS
Besides obtaining money through sponsorships, fundraisers can play a key role in financing the team consistently. First, a budget is determined for the fundraiser in order to account for the restrictions and expenses. Brainstorming and choosing the type of fundraiser is the next step. For instance, events that attract large numbers of people are best for maximizing profit. The final step is to plan the central aspects of the fundraising event such as the theme, victuals, activities, and other important arrangements.

THEME
A theme is put into place to tie the various activities of the event together. The theme should be flexible in order to unify the activities relating to it. If the theme is too specific or dull, it makes it harder to entertain the guests. After the theme is chosen, activities relevant to the theme are decided upon such as games, entertainment, or contests. To entice students to attend the event, practical prizes such as gift cards are rewarded to contest winners. It is always wise to give students incentives (monetary, extra credit in some classes, etc.) to participate in the activities.

EVENT APPROVAL
After the event is finalized, the event has to be reviewed by the student council. Forms such as fundraising packets that list how much to spend, projected profit, date and time of event, and teacher approval is required before a club or team holds a fundraising event. Do not put this off. The approvals decide whether or not the fundraisers get through.

Always be sure to follow school rules. Do not hold any fundraisers that your student council would deem illegal. For example, California recently placed restrictions on school food fundraisers, which limit the amount of calories, and fat in snacks and lunch meals, so Californian teams should not sell foods rich in calories and fats. Ignoring the law is not a wise idea. Your team could get into much trouble if you fundraise without permission.

ROOM RESERVATION

After figuring out how many activities require rooms, reservations ascertain room availability for each activity. Teams are able to request classrooms by getting the teachers' approvals. After the event, the classroom must be organized back to its original setting for the teacher's convenience. Also, leaving a thank you note notifying the teacher that you are thankful will increase the chance of them allowing you to use the room another time.

PROVIDING FOOD

If your team plans on providing food accommodations, food orders should be placed at least two weeks prior to the event. The number of orders depends on the target population and the event's established popularity. You should order enough food to feed the people who have purchased tickets. To get help from other organizations, the team can request food donations from a parent-teacher-student organization. The team can also ask sponsors to provide discounts on food items.

FOOD IDEAS: Chinese takeout, Italian pasta, sub sandwiches, and salads are always great choices to serve. In addition to main courses, order snacks and desserts. In case food orders are unsuccessful, pizza is a cheap and fast alternative. Pizza can satisfy meat-eaters and vegetarians. Be sure to satisfy all diets and allergies; do not let anyone starve!

TICKET SALES

Tickets should pertain to the theme and appeal to the customer. Numbers should be written on each ticket to record the number of tickets sold at any given time. Prices for presale tickets are sold at a certain amount that fits within the students' budget but are sold at a higher price at the door for profit. The tickets are given to the school treasurer and sold at her office to ensure that no confusion will be made. To further attract the students, incentives such as extra credit from the teachers are given to those who attend the event.

CHAPERONE

For security purposes, parent and teacher volunteers are requested to assist and supervise events. Volunteer forms are distributed to parents of the robotics team and your parent-teacher-student organization two weeks prior to the event. Chaperones usually oversee the rooms or help with food and sales. Be sure to make the chaperone feel comfortable by offering them a free meal. Chaperones will not enjoy their shifts if they do not receive attention, so don't hesitate to show your appreciation.

MASTER OF CEREMONIES
The emcee guides the guests throughout the event; the emcee also announces scheduled events and hosts contests. Getting a host who greatly represents the robotics team and has a vibrant personality is definitely an ideal choice for any event.

Planning Long Distance Trips

Trips to regional competitions require extensive planning before heading to the destination. Preparations for lodgings, transportation, meals, activities, and chaperones have to be made weeks in advance in order to ensure that everything goes smoothly.

HOTELS
Researching suitable hotels is the first step when planning long distance trips. It is ideal to find a hotel within five miles of the competition that also provides various accommodations such as a free continental breakfast or dinner. Prices should typically range around $100 per room with two queen beds, depending on the team's budget. The total number of rooms to book has to account for the total number of team members, mentors, supervisors, parents and bus drivers. In addition, it is advised to book at least one extra room for reassurance.

Ask the hotel if they have discounts for large groups (usually 10+ rooms). Since hotels near the competition site are desirable, it is best to make reservations months in advance. Keep in mind that other robotics teams will also make reservations in the same hotel. If you reserve rooms last minute, chances are that the hotel will not have enough space for your team.

Most hotels require a room list when checking in. Typically, four members, a room leader and three other members, are assigned to each room. To vary the roommates in each room, create a system devised for assigning which members are in each room. Members can be divided by gender, then separated by build and non-building teams, and lastly by grade level. Members from each grade are then grouped into a single room. Another popular method is to allow students to request roommates themselves.

TRANSPORTATION

For competitions bordering the state, a charter bus is the main choice for transportation. A bus should normally seat more than the number of people attending the trip. For a three-day road trip, bus prices should total to around $3000.

PROVIDING MEALS
It is good to research and keep note of various restaurants around the competition site beforehand. During the trip, calls for food orders or reservations should be made the day before.

CHAPERONES
To ensure safety during competitions, chaperones provide security by enforcing curfews and/or supervising the arena. Teachers, supervisors, mentors, or parents should be requested by the team to oversee the trip. Chaperones should be notified in advance and given the schedule beforehand to make necessary family and trip preparations.

ACTIVITIES
Lastly, planning fun activities is a must-have to entertain the team during free time. After all essential portions of planning the trip are finalized, research other fun areas. Perhaps set a dinner after the competition for a celebration. Despite the fact that your team is travelling to a robotics completion, it is a road trip after all, so plan a fun activity!

SPONSORSHIP

I ts basic functions are to maintain positive team operations. With strong financial resources, a team increases its competitive potential. By contacting corporations as well as community businesses, the team can spread the word and gain community support and mentors for themselves. In addition, members of a sponsorship team gain entrepreneurial skills, such as effective writing and speaking. These skills will benefit the team as a whole because members learn how to communicate more confidently. Sponsorship is, additionally, the quickest way for the team to gain money in the long run.

Goals

The goals of a sponsorship sub-team are relatively simple, but critical. Having a sponsorship group is very important because it provides a gateway to other communities, groups, companies, etc. Your sponsorship section is essentially the face of your robotics team. Sponsorship's main functions are to:

- Gain community support
- Maintain a positive team image
- Gain financial support for the team

Contacting Companies

Corporations will be the main source of monetary aid. It is recommended that sponsorship is sought from companies because they usually have a certain amount of money set aside for outreach in the community.

First, make a list of companies that you would like to sponsor your team. These companies should be related to the fields of Science, Technology, Engineering and Mathematics, although, it is not required. Run this company list by officials such as the team coordinator and later the school principal. These adults may have reservations about approaching certain companies. Make sure that all companies that will be approached are first introduced to adults with authority in your team.

APPROPRIATE COMPANIES are companies that you would like the team to be affiliated with. These companies tend to be related to engineering and technology.

INAPPROPRIATE COMPANIES are those whose missions are totally unrelated to those of FIRST and the robotics team. While getting sponsorship from your local McDonalds may get the team financial aid, it may not make the team image appealing. Approaching a tobacco company is also not a wise decision. Think things through before acting.

Next, find phone numbers or email addresses for these companies or corporations. Most corporations' contact information can be easily found online. Also check online to see if there is an application process already placed in order.

Last but not least make calls and send out emails. Make the team known to as many companies as possible. Make sure the status of the phone calls is recorded. Make a log of which companies to contact and when they were contacted. It is important that the results are written down, even if the attempts are unsuccessful. This way, the team can keep track of which companies have been approached and which ones are still open. Try to have only one person make the phone calls, as to keep consistency throughout, although training another member isn't a bad idea as well.

Making Phone Calls

STRATEGY
1. Call a business and ask to talk to the manager to tell them about the team and the team's reason for calling (about three minutes of talking).
2. The call will be followed up with an informational letter about the team.
3. Within a few days of the company receiving the letter, a follow up call should be made to ask if the company has received the letter and if anything is unclear.
4. Finally, the sponsorship packet will be sent to the company. By this time, the business should be able to recognize the team and understand what the team does.

FIRST CALL
Ask to speak to the manager or director of public relations in charge of sponsorship/donations. The following is an example conversation. Fill in the words in the parentheses appropriately:

Hi, my name is (first name, last name) and I attend (full name of high school), a
high school in (city). I am a part of the robotics program at my school. It is a
unique program that I really enjoy as well as many other high school students and we
are trying to gain support from the community. Do you have a few minutes so I can tell
you about my robotics team?

If the person says no, then ask them if there is a time when they can be called back. Suggest a time that works for both parties. If they say that they are pretty busy ask if the team can send a packet of information that they can look over at their own convenience. At the very least, get a name and address where information can be sent.

If the person says yes, some kind of spew to say to them is necessary. Don't talk for more than two minutes. Example: My robotics team, the (team nickname) as we call ourselves, competes in a competition hosted by a non-profit organization called FIRST. Each year FIRST comes up with a new game and we have a six week period to design, build, and ship a robot. The game is different each year so we can't prepare beforehand. Our robots are not little tin can robots; they are about five cubic feet, so they're pretty life-sized. Our robot then competes in regional competitions with other teams from across the county and a few teams from other countries. Highest placing teams from regional competitions go to the championships in_____. It's a really unique program, and there are only about (number of teams) teams in the entire (your area). There is so much to be gained from being on the team. Aside from the obvious engineering and science skills, you also learn how to work as a team and leadership skills. I've been involved with it for (number) years now, and I enjoy it.

Now the person being spoken to is going to say something like "Sounds like a good program." Reply with, "Can I send you a packet with more information?" Be sure to get his or her name and the company address.

Send the person a team informational packet immediately. It is desired that they receive the packet while your call is still fresh in their mind. With the informational packet, include a handwritten note on your team stationery reminding him or her of who they spoke to.

SECOND CALL: FOLLOW UP CALL
Wait about a week after sending the packet before calling a second time. This allows time for them to receive the packet and look over the material. Ask if they received the packet and if they have any questions. Thank them for their time and remind them that FIRST Robotics is a fantastic program.

Send a packet that includes sponsorship information. Include a handwritten note on your team's stationery thanking them for their time.

THIRD CALL: SECOND FOLLOW UP CALL

Ask them if the sponsorship packet was received and if there are any questions. Let them know that the team can use any support because building a robot is an expensive endeavor. Remind them that with a donation of just (minimum donation amount here), their name will be featured on your uniforms, website, and promotional items such as banners, shirts etc. but more importantly they will be helping out a great cause.

- Be friendly!
- Give a BRIEF bio about your team.
- Always be courteous even if they are rude.
- Be enthusiastic, if the caller doesn't sound interested they probably won't get interested.
- Don't be pushy, if they don't want to talk, suggest sending them a packet of information.

Informational Packets

The informational packet must professionally present the team to whoever is reading its contents, usually a prospective sponsor. It should contain:

1. a brochure (explained below)
2. a business card for contact information (explained below)
3. a sponsorship request letter
4. an itemized budget
5. small gift such as a button or other team item
6. any other piece of information the team feels necessary to include

All contents should be enclosed in a two-pocket folder and enclosed in a large envelope.

BROCHURE

The main purpose of the brochure is to explain the robotics team, FIRST, and sponsorship levels in an aesthetically pleasing manner. As a result, the brochure shouldn't be overly wordy, but rather rich in the important facts and figures. Pictures, of course, are important because it gives a reader a better sense of the team's identity. View the sample brochure in the Appendix on page 46.

BUSINESS CARD

The business card provides the essential contact information of the team in a compact manner. On the business card, include the name, address, and phone number of the school, as well as, the team advisor and team e-mail. If there is a team website, be sure to include the website URL as well. Also include your team logo or a splash of color for visual appeal. Soft colors are better than a plain, white, standard card.

BENEFITS OF BEING A SPONSOR

Every sponsor should be rewarded for their donation, regardless of the amount. Depending on their level of sponsorship, the robotics team should provide the company or individual with various rewards, such as a certificate of appreciation, advertising on T-shirts, a link on your website, the company's logo on the robot, the logo on a team banner, inviting sponsors to team events, etc.

Establishing a strong relationship with the sponsor increases a team's chances of receiving another donation from the same company the following year. Make sure to follow up with the sponsor on the team's progress; as a result, the sponsor will feel more appreciated. In addition, be sure to emphasize that the team is a non-profit organization so that company or individual will receive a tax deduction for their donation.

Presentations

MEDIUMS

Directly presenting the team to a sponsor is one of the most effective ways of receiving a donation. There are various mediums by which presentations can be created:
- PowerPoint: PowerPoint slideshows are very simple to make and allow the use of text and pictures in the same slide.
- Presentation Board: Like a brochure, a presentation board provides lots of space to visually convey the team's mission and values.

CONTENT

Introduce your team to the potential sponsors. Be personable and friendly in order to be a more effective presenter. Additionally, tell them about the school, missions, and goals so they better understand the team's motives and needs.

Each slide should contain a picture and simple text that accompanies the main topic of that slide. Do not write too many words per bullet since the words will then appear small and cluttered. Keep the length down to approximately six words per bullet. The presenter will then elaborate as he or she speaks.

Add media in the form of videos and images to put a face on the team. A sample outline of a PowerPoint presentation can be found in the Appendix on page 47.

ETIQUETTE
Professionalism and demeanor are keys to an effective presentation. However, here are some tips to keep in mind:
1. Maintain direct eye contact.
    a. An eye-to-eye connection with a potential sponsor makes them feel significant and makes the presenter appear confident about what he/she is talking about. Moreover, it forges a stronger connection with the sponsor.
2. Do not read from note cards or directly from a PowerPoint.
    a. Since the presenter is supposed to be an expert on the team, it will look awkward and unprofessional if he/she constantly refers to notes to talk about the team. Get plenty of practice and familiarity with the content.
3. Do not sound desperate.
    a. This idea relates with professionalism. The team does not want to guilt anyone into giving them money, but rather have them donate to a good cause that invigorates science and engineering education among the youth.
4. Gesticulate.
    a. Gestures imply enthusiasm. You want the company to believe your words; so, an animated speaker more effectively conveys their message to the audience.
5. Enunciate.
    a. A good speaker has a clear, convincing tone. Be sure to convey each message in a positive way to persuade the company to become a team sponsor. Also emphasize particular words to show that they are important to you and your team.

STRUCTURE
The presentation should be clear and coherent. It is best to first introduce the speakers and what each presenter will talk about. Afterward, tell the company or individual about your

school, team, FIRST competitions, budget, and be sure to include how their money will better assist your missions. Afterward, be sure to thank them for their time and that you hope to hear from them soon. Once the presentation is over, ask if they have questions.

Sponsorship Levels

Depending on the level of sponsorship, a company receives different rewards. The Nerd Herd implements the following sponsorship levels:

BRONZE SPONSOR - $250
Your company name is displayed on our website, team uniform, and sponsor board at the CAMS Open House.

SILVER SPONSOR - $500
Your company name will be mentioned in most of our literature. This includes everything listed in the Bronze package, and your company name will also be displayed on our banners and in our promotional video.

GOLD SPONSOR - $1,000
Your company name is featured on all team literature. This consists of everything listed in the Silver package plus a display in the regional competition program. In addition, your company link will be listed on our team website.

PLATINUM SPONSOR - $2,000
Your corporate identity becomes part of the team's official name and will be featured on all literature, including press releases. Your company will also receive a certificate of appreciation.

DIAMOND SPONSOR - $5,000
In addition to the included details of the Platinum package, your company will receive a personalized plaque from the team and a commemorative calendar.

Thank You Letters

Never forget to thank prospective and current sponsors for their time and contributions. The team should create Thank You letters on team stationery to show appreciation.

While handwritten letters give the letter a personal touch, it is best to avoid unless a person's penmanship is very neat. In most cases, the letter should be typed. The only writing that should be done by hand is the signature at the end of the letter. An example of a Thank You letter can be found in the Appendix on page 48.

APPENDIX

5.1 CAMS Robotics Constitution

PREAMBLE

We, the members of the California Academy of Mathematics and Science Robotics Club, in order to establish a foundation of engineering and business in students, educate members in said fields, expose members to real-world engineering design processes, promote teamwork and cooperation, and provide a corporate atmosphere for administration, do ordain and establish this constitution for the California Academy of Mathematics and Science Robotics Club.

Article I. NAME AND LOCATION

Section 1. The name of this club shall be the "CAMS Robotics Club."

Section 2. Club meetings shall be held on a weekly basis in the advisors room as well as the 5000 Machining Room and Computer lab, on Monday and Wednesdays, from 4:00 P.M. to 6:00 P.M.

Article II. OBJECTIVES AND PURPOSE

The purpose of CAMS Robotics shall be to offer students the experience of exploring real world engineering problems while cooperating and communicating with one another to produce a winning robot. CAMS Robotics will work towards its goal by:

A. Enhancing skills in specific areas by designating members to specialized sub-teams
B. Working in small groups, thus promoting teamwork and cooperation
C. Competing in the FIRST Robotics Competition (FRC).

Article III. MEMBERSHIP REQUIREMENTS

Section 1. Membership for the CAMS Robotics Club is open to students in grades 9 and up, provided they are not on academic probation.

Section 2. Prospective members must submit applications the CAMS Robotics Chairs at the end of each year.

Section 3. Adults with expertise in engineering and/or business may join the CAMS Robotics clubs as "Mentors." Mentors do not have to submit applications, but must consult the Team Coordinator in order to obtain mentorship. Mentors are not eligible for club offices.

Section 4. Members are required to inform their respective sub-team Leaders directly of a planned absence a day prior to the next meeting. Methods to contact Leaders include, but are not limited to, phone calls, e-mail, instant messages, text messages, or in person.

Article IV. CLUB DUES

Section 1. It is not mandatory for members to pay Club Dues in order to gain membership into the CAMS Robotics Club. However, donations in the form of dues from the previous years (from 1999 – 2009) are accepted.

Section 2. Donations are greatly appreciated, but shall be non-refundable.

Section 3. Donations shall cover costs for members to attend FRC regional events.

Article V. OFFICERS, ELECTIONS, ELIGIBILITY, AND PRIVILEGE

Section 1:

The officers of the CAMS Robotics Club shall be the Build Chairpersons, Administration Chairman, Systems Engineer(s), Administration Leader(s), Media Leader, Articulation Leader(s), Electrical Leader, Drive Leader(s), and Programming Leader.

Section 2: Only students may serve as officers. Officers must have been a member of robotics for at least one full season.

Section 3: Officer Elections will consist of the following two-step process:

1. Application - Prospective officers shall complete the Application for CAMS Robotics Leadership. An application deadline shall be established, announced, and written on the Application for CAMS Robotics Leadership.

2. Deliberation - The application is due for review by the current CAMS Robotics Club Officers. Club Officers shall hold a meeting to discuss the candidates and their applications. Only Club Officers shall cast votes, and only these votes shall count toward the computation of the 50% required margin for election to office.

Section 4. Club officers shall be elected by the month of May and will serve a term lasting one year.

Section 5. In order to be recognized as a sub-team leader, each qualified member must have at least three sub-team members to mentor.

Article VI. DUTIES OF OFFICERS, TERMS

Section 1. The duties of the Build Chairman shall include:

A. Overseeing all engineering aspects and operations of the team.
B. Coordinating the weekly meetings of the club with the Administration Chairman.
C. Co-chairing all meetings of the club.
D. Calling emergency meetings, pursuant to Article X, Section 3.
E. Acting as the co-chief spokesperson of the club.
F. Ensuring that all Build sub-teams are on task and meet all deadlines.
G. Providing a vision, set of goals, and guidance for each of the sub-teams.
H. Working directly with the Administrative Chairman to ensure that the team consistently meets expectations on both sides of the team.

Section 2. The duties of the Administration Chairman shall include:

A. Overseeing all non-engineering aspects and operations of the team.
B. Coordinating the weekly meetings of the club with the Build Chairman.
C. Assisting the Build Chair with all meetings.
D. Calling emergency Administration meetings, pursuant to Article X, Section 3.
E. Acting as the co-chief spokesperson of the club.
F. Providing a vision and goals for each of the Administration sub-teams.

G. Ensuring that Administration sub-teams are on task and meet all deadlines Working directly with the Build chairman to ensure that the team consistently meets expectations on both sides of the team.

Section 3. The duties of the Systems Engineer(s) shall include:

A. Supervising build teams to ensure that all tasks are completed in a timely manner.
B. Communicating directly with build team Leaders to develop plans and goals for each of the sub-teams.
C. Ensuring that all Leaders are informed of the activities and progress of other sub-teams.
D. Creating an inventory of tools and robotic parts.
E. Understanding the rules of the season's game.
F. Understanding all aspects of the robot.
G. Reporting all information to the Build Chair.

Section 5. The duties of the Administration Leader(s) shall include:

A. Executing plans provided by the Administrative Chairman.
B. Acting as a liaison among administrative teams to promote teamwork and cooperation.
C. Documenting the activities of all sub-teams.
D. Aiding the Administrative Chairman in reviewing award entries.
E. Handling and organizing all paperwork.
F. Distributing secretarial tasks among sub-team members.

Section 6. The duties of the Media Leader shall include:

A. Updating the club website regularly.
B. Teaching sub-team members the necessary knowledge to edit and manage a website.
C. Providing the club with forms of media for presentations, publicity, and/or historical records.
D. Creating animations for an animation award entry submission.
E. Producing videos of club members and activities.

Section 7. The duties of the Articulation Leader(s) shall include:

A. Constructing the articulated components of the robot.
B. Mentoring all sub-team members in the building process.
C. Communicating with the Systems Engineer to maintain a unified working environment.

Section 8. The duties of the Drive leader(s) shall include:

A. Creating and maintaining the drive system of the robot.
B. Calculating how much torque and speed is necessary to prepare the robot for competition.
C. Mentoring all sub-team members in the building process.
D. Communicating with the Systems Engineer to maintain a unified working environment.

Section 9. The duties of the Electrical leader(s) shall include:

A. Teaching Electrical sub-team members how to strip, crimp, and solder.
B. Designing, configuring, and wiring a space-efficient electrical board.
C. Supplying the robot with power.
D. Communicating with the Systems Engineer to maintain a unified working environment.

Section 10. The duties of the Programming leader(s) shall include:

    A. Teaching object-oriented programming language C, C++, Java, and LabVIEW.
    B. Implementing the concepts to write and test code that executes autonomous and formatting operator control actions.
    C. Communicating with the Systems Engineer to maintain a unified working environment.

Article VII. IMPEACHMENT OF OFFICERS

In the event that an officer is judged to be deficient in his/her duties (as decided by a unanimous agreement of the three other club officers and advisor), he/she may be removed by a two-thirds vote of the club's membership. The Advisor shall oversee the impeachment process to ensure a fair and speedy trial.

Article VIII. VACANCIES IN OFFICES

In the event that an officer takes a leave of absence from the Club, his/her position will be assumed by the co-leader. If there is no co-leader, a qualified sub-team member may assume the position. If there are no qualified sub-team members, the respective Systems leader shall oversee the sub-team.

Article IX. BUDGETING AND FUNDRASIERS

Section 1. The budget shall be determined in the beginning of each year by the Chairmen and the Administrative leader(s). Approximately half of the club's budget will be allotted to the Build teams, with the other half being allotted to the administrative teams.

Section 2. Reimbursements shall be issued by the Administrative Chairman, Administrative leader(s), or Administration Leader. In order to receive reimbursements, members must show proof of purchase by providing a valid receipt.

Section 3. Prospective fundraisers must be approved by the Administrative Chair and Administrative Systems leader(s) before seeking approval by the Associated Student Body.

Section 4. All fundraisers must follow the guidelines set by the Associated Student Body and the Long Beach Unified School District.

Section 5. All transactions are to be recorded by way of receipts and ledgers.

Article X. CLUB MEETINGS AND MINIMUM NUMBER QUORUM

Section 1. The club shall meet on a weekly basis. General meetings shall be held every Monday and Wednesday from 4:00 P.M. to 6:00 P.M. Leader meetings shall be held during 7th period every Friday afternoon. Meeting dates are subject to change at any time.

Section 2. At least one leader for every seven members must be present at every general meeting.

Section 3. In the event that an emergency meeting needs to be held, the chairmen of the club shall have the authority to arrange such meetings. The chairmen shall inform the club of the meeting using at least one of several methods, including, but not limited to, e-mail, public announcement, conversation, phone calls, and text messages. The chairmen reserve the right to appoint a Systems leader to announce news of emergency meetings. The chairmen also reserve the right to limit emergency meetings to specific audiences.

Article XI. PARLIAMENTARY AUTHORITY

The rules of parliamentary practice set forth in *Robert's Rules of* Order shall govern all proceedings of this organization, subject to any special rules which have been or may be hereinafter adopted.

Article XII. AMENDMENTS

Section 1. Amendments may be made to this constitution at any time by a two-thirds vote of the Club officers.
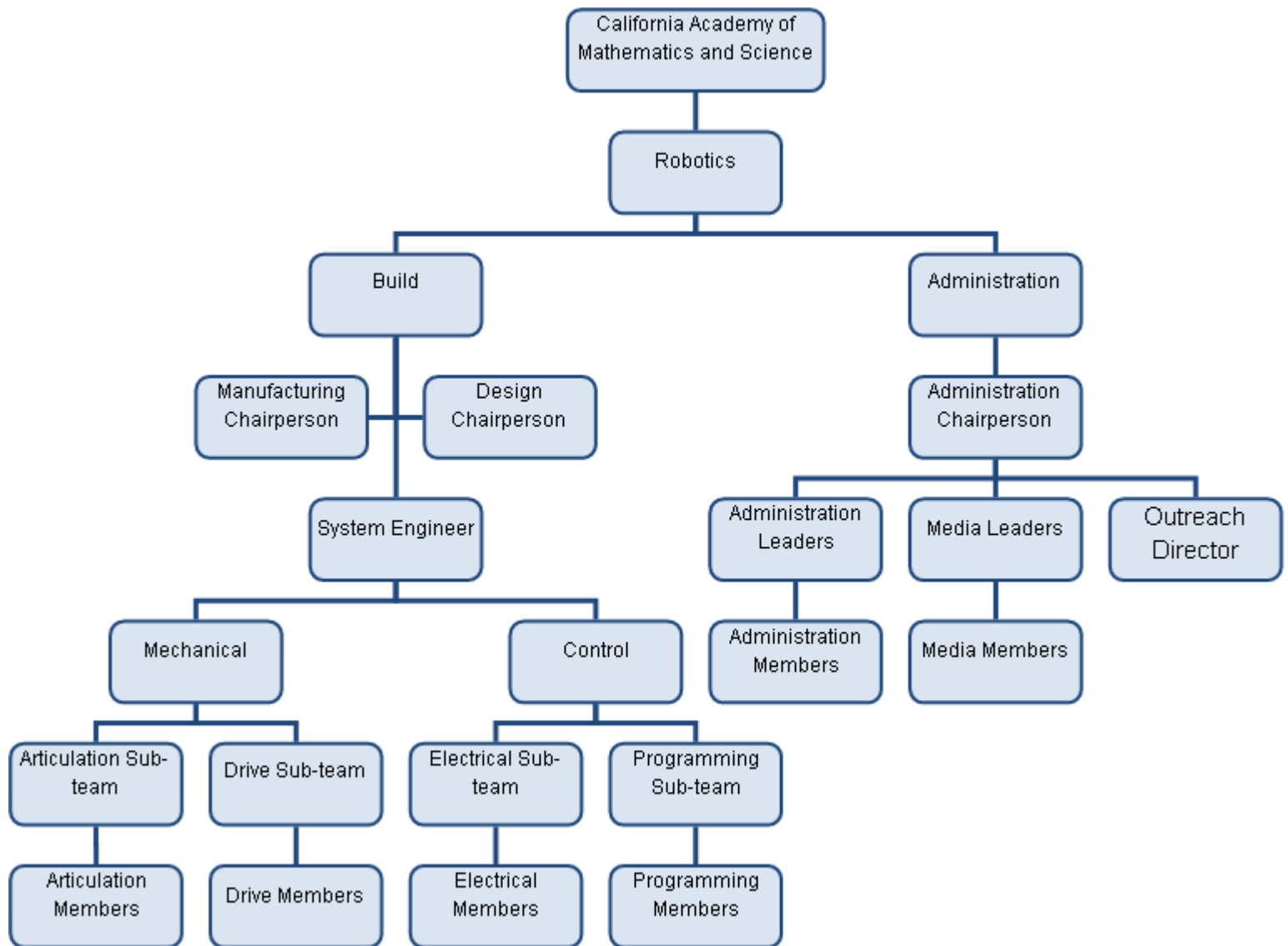
Section 2. Members interested in proposing amendments to the constitution must submit the proposed amendment to the Administrative Chairman.

Section 3. The proposed amendment shall be presented at the following Leader Meeting where the amendment will be debated.

Section 4. Upon receiving a two-thirds affirmative vote in favor on a constitutional amendment and approval from the Administrative Chairman shall submit the amendment in writing to the Associated Student Body for approval.

Robotics Hierarchy

California Academy of Mathematics and Science
→ Robotics
→ Build
→ Manufacturing Chairperson
→ Design Chairperson
→ System Engineer
→ Mechanical
→ Articulation Sub-team → Articulation Members
→ Drive Sub-team → Drive Members
→ Control
→ Electrical Sub-team → Electrical Members
→ Programming Sub-team → Programming Members
→ Administration
→ Administration Chairperson
→ Administration Leaders → Administration Members
→ Media Leaders → Media Members
→ Outreach Director

CAMS Robotics Administration Application

Due Wednesday, September 12th, 2012 to Mr. Harder

"The FIRST Robotics Competition is an exciting, multinational competition that teams professionals and young people to solve an engineering design problem in an intense and competitive way. The program is a life-changing, career-molding experience—and a lot of fun. In 2003 the competition will reach more than 20,000 students on over 800 teams in 24 competitions. The competitions are high-tech spectator sporting events, the result of lots of focused brainstorming, real-world teamwork, dedicated mentoring, project timelines, and deadlines." – www.usfirst.org

CAMS has participated in the *For Inspiration and Recognition of Science and Technology* (FIRST) Robotics Competition for the last twelve years. CAMS FIRST Robotics Competition (FRC) Team, "the NerdHerd," is an extracurricular club in which members work as a team to prepare for FIRST Robotics Competitions while developing the skills necessary to become effective team members, entrepreneurs and engineers.

Being a part of the NerdHerd requires time and dedication. Although being a member of the team is a responsibility, it is also a lot of fun and can teach you new things. During the school year, meetings will be held on: every Monday and Wednesday 4:00 – 6:00pm, some Saturdays from 9:00am to 3:30pm. **Attendance is expected at all team meetings.**

Being a part of the NerdHerd requires good grades. FRC is an extracurricular commitment and should not take precedence over your curricular commitments. If you receive a D or F, you will be placed on probation until you have those grades cleared with your teachers. If you experience a significant drop in your grades, your parents can request that you no longer participate in FRC. **Please provide a screenshot of your SchoolLoop dashboard with this application.**

Being a part of the NerdHerd requires participation at the FRC Regional events. An information session will be held with your parents on September 12th 2012.

For more information, visit the official CAMS Robotics website at http://www.camsrobotics.org/ If you have any questions or concerns at all, please feel free to message Mr. Harder or Desiree Diaz.

Please fill out the online application at <ins>http://bit.ly/KP7vSn</ins> and submit a signed copy of this page with your current grades and GPA by Wednesday, September 12th, 2012 to Mr. Harder or his mailbox.

I have read the introduction. The information provided on the application has been given truthfully and to the best of my awareness. It is given voluntarily to help determine qualification for membership on the FRC team.

Student Name (please print): _____ Student Signature: _____

Parent Name (please print): _____ Parent Signature: _____

We will notify you via SchoolLoop to tell you whether you have made the NerdHerd.

Dear *First name last name*:

Congratulations on your acceptance to Robotics. Throughout your interview you impressed us with your leadership skills, working abilities, and great personality. We want to thank you for you interest and hope that you will be an active Robotics member and take the opportunity to become involved. We trust you will benefit from the Robotics Team as much as we will benefit from you.

Our first meeting will be held on *date* from *time* at *where*. See you there!

Sincerely,

Printed Name of Signature

The students at the California Academy of Mathematics and Science (CAMS) began CAMS Robotics in 2001 to participate in the FIRST Robotics competition. FIRST, *For Inspiration and Recognition of Science and Technology*, is a non-profit organization founded by Dean Kamen, an inventor, entrepreneur, and tireless advocate for science and technology. FIRST's goal is to provide high school students with innovative programs to build self-confidence, knowledge, and life skills while inspiring students to pursue opportunities in the areas of science, technology, and engineering.

CAMS is a comprehensive four-year high school located on the campus of California State University Dominguez Hills (CSUDH). Established in 1990, CAMS Is a joint venture of the California State University Chancellor's Office, CSUDH, the Long Beach Unified School District, and a consortium of 11 Los Angeles-area school districts. It is dedicated to increase the pool of students who enter mathematics and science related careers. The Academy is not only noted for its diverse student body, but also for its academic excellence. Every year CAMS students undertake a rigorous curriculum and interdisciplinary project as well as engage in college courses offered by CSUDH. With all the stress that CAMS imposes on its students, the CAMS Robotics team, also known as the Nerd Herd, provides the getaway for many students.

CAMS Robotics is completely interdisciplinary, designed to offer students the experience of exploring real world engineering problems while cooperating and communicating with one another to produce a winning robot. The CAMS Robotics team has successfully partaken in the FIRST Robotics Competition for more than five years. Approximately 10% of the student body participates in this program by attending after school and weekend meetings, outside of their regular schoolwork, totaling hundreds of hours per year. The team is composed of highly motivated, young individuals seeking to gain experience for future vocations in engineering and business.

Since its establishment, CAMS Robotics has provided students with experiences not attainable within the classroom. Power tools, gears, and wires are only the beginning. "Robotics has allowed me to work with technology not available to other students," Robotics member Kevin Pang commented. Technology is a key focus within the team. Members walk into the team with absolutely no experience and leave the team with an engineering attitude. "We are like a small company," comments former Robotics' chair, Kovid Mishra. Like a company, the team works together to reach its common goal: to produce a winning robot. However, building the robot is only one aspect of the experience; designing and funding are also part of it. The designing process offers students a chance to be an engineer. Students also gain leadership and communication skills, allowing them to pursue careers in business and administration. Students have learned to "deal with the unexpected" and to make do with the resources available.

In order to participate in competitions, Robotics must raise the money necessary for our yearly expenses. Unfortunately, it is not easy to raise a large sum of money within a single school year. Fundraises such as the annual Halloween Night and Game Night are important sources of funds, but these efforts are not always enough. Funds will cover participation entry fees, transportation, hotel expenses, materials, and tools. The team will greatly benefit from any donations that it receives. Can we count on you to contribute to the leaders of tomorrow?

Corporate Name
First Name Last Name
Title
Street Address
City, State, Zip Code

(Date)

Dear First Name Last Name:

The California Academy of Mathematics and Science (**CAMS**) is a comprehensive **public, four-year high school** that seeks to increase the nation's pool of graduates in **mathematics and science**. Recently selected as a National Blue Ribbon School of Excellence by the U.S. Department of Education, the Academy features a rigorous and innovative college-preparatory curriculum. CAMS develops the talents of motivated students to become thoughtful and productive members of an increasingly global and technological society.

The **CAMS Robotics Team** will participate in the *For Inspiration and Recognition of Science and Technology* (**FIRST**) Robotics competition for its 6th consecutive year. The team plans on competing in two regional events, the San Diego Regional Competition and the Southern California Regional in Inglewood. Because of recent success in regional competitions, the CAMS Robotics Team is also striving to qualify for the FIRST National Competition in Atlanta, Georgia.

Ten-percent of the CAMS student body participates in this program, making it the largest club on campus. Students attend after school and weekend meetings, outside of their regular schoolwork, totaling hundreds of hours per year. Our team is composed of **highly motivated young individuals** seeking to gain experience for future vocations in **engineering** and **business**.

We will greatly benefit from your assistance in improving the team's overall competing potential. The team seeks the fund and resources for the following:

1) Entry fees for participation in the FIRST Robotics Competitions
2) Transportation and hotel accommodations to attend competitions
3) High-quality materials and tools

Your sponsorship allows us to compete on the international stage presented by the FIRST Robotics Competition and CAI Robotics is committed to representing your company with excellence.

Note that the CAMS Robotics Team is a **non-profit** 501(c) (3) organization, so your company will receive a tax-deduction your contribution. Also, FIRST Robotics is an international competition and having your company's name featured on the robot, in CAMS Robotics literature, and on the team shirts will be an excellent international advertisement opportunity.

In appreciation of your support, we would like to keep you informed of our team's progress. We invite you to visit the CAM Robotics Team's website, http://camsrobotics.org. If any additional information is needed about the CAMS Robotics Tear please contact our team advisor:

Ted Harder
310.243.2025
tharder@lbusd.k12.ca.us

Can we count on you to invest in tomorrow's workforce? Contribute to the future today.

Sincerely,
Nicole Mangabat   Ted Harder
CAMS Robotics   CAMS Robotics
Public Relations Director   Team Advisor
Encl.

Sample Brochure:

Achievements

Since the establishment of the team in 1999, CAMS Robotics Team 687 has received numerous awards and recognitions for their hard work and dedication.

	Award	Year	Location
1	Kleiner Perkins Caufield & Byers Entrepreneurship Award	2007	Los Angeles, CA
2	Sportsmanship Award	2007	San Diego, CA
3	Website Award	2007	San Diego, CA
4	Kleiner Perkins Caufield & Byers Entrepreneurship Award	2008	Phoenix, AZ
5	Woodie Flowers Award	2008	Phoenix, AZ
6	Judge's Award	2008	Los Angeles, CA
7	Kleiner Perkins Caufield & Byers Entrepreneurship Award	2009	Los Angeles, CA
8	Engineering Inspiration Award	2009	Las Vegas, NV
9	Kleiner Perkins Caufield & Byers Entrepreneurship Award	2009	Atlanta, GA
10	Kleiner Perkins Caufield & Byers Entrepreneurship Award	2010	Los Angeles, CA
11	Kleiner Perkins Caufield & Byers Entrepreneurship Award	2010	San Diego, CA
12	Kleiner Perkins Caufield & Byers Entrepreneurship Award	2011	Los Angeles, CA
13	Kleiner Perkins Caufield & Byers Entrepreneurship Award	2011	St. Louis, MO
14	Kleiner Perkins Caufield & Byers Entrepreneurship Award	2012	Madera, CA
15	Kleiner Perkins Caufield & Byers Entrepreneurship Award	2013	San Bernardino, CA

Sponsors

Both the CAMS Robotics team and sponsors benefit from sponsorships. Sponsors are given the opportunity to:

- Inspire and motivate tomorrow's workforce to explore careers in technology, science, and business
- Promote the pursuit of higher education
- Facilitate and encourage a hands-on learning experience not attainable in any classroom
- Gain publicity through various mediums in a heavily participated program

BOEING **CAMS PTSO**

NORTHROP GRUMMAN **Raytheon**

If you are interested in becoming a sponsor or would like more information regarding sponsorship and our team, please contact us.

Team Advisor: Ted Harder
Email: tharder@lbschools.net

California Academy of Mathematics and Science

1000 East Victoria St.
Carson, CA 90747
Number: (310) 243-2025
Fax: (310) 516-4041
www.camsrobotics.org

The Nerd Herd

CAMS Robotics FIRST Team 687

FIRST

FIRST (For Inspiration and Recognition of Science and Technology) is a public organization that was founded by Dean Kamen in 1989 to inspire youth to pursue careers in the STEM (Science, Technology, Engineering and Math) fields while allowing them to build leadership, communication, and confidence skills.

"To transform our culture by creating a world where science and technology are celebrated and where young people dream of becoming science and technology leaders."

- Dean Kamen

FIRST has created several programs and scholarships to encourage a further exploration of STEM careers. FIRST promotes the ideas of Gracious Professionalism, a term coined by FIRST National Advisor Dr. Woodie Flowers, and cooperation in competitions to encourage a respectful and helpful environment.

Today, FIRST continues to look for new methods to uphold the growing interest in STEM careers amongst youth. The Nerd Herd contributes to this mission by hosting middle and high school competitions and summer VEX camps, as well as participating in local events such as the LBUSD Science Fair and the El Camino College Onizuka Space Science Day.

The Team

Mission Statement
To offer students and the community the experience of exploring real world engineering and business opportunities while cooperating with one another to produce a winning robot and inspiring appreciation for science and technology

The Nerd Herd, FIRST Team 687, a non-profit participant of the FIRST Robotics Competition, is located on the campus of the California Academy of Mathematics and Science (CAMS) in Carson, California. The team was founded by three students in 1999 and joined FIRST Robotics in 2001. After 12 years of competing, the team has expanded to about 130 students, amounting to 19% of the school population.

The team's bicameral structure has been the key to its success. The Build sub-team designs, manufactures, and constructs the robot for the annual competition while the Administration team manages funds, media, and all business aspects throughout the year.

Through hard work, dedication, and innovation, the Nerd Herd continues to strive toward new goals with distinct strategy and drive.

Outreach

FIRST Robotics Team 687 has expanded its outreach operations to serve the community and develop interest in mathematics, science, engineering, business and media.
What we do:
- Since 2006, not including 2012, Team 687 has held summer VEX camps for nearly 200 middle school students.
- The team has hosted 15 VEX Competitions since 2008.
- In the 2007-2008 seasons, the team visited 6 middle schools. This number grew to 10 middle schools in the 2008-2009 seasons, when the team provided transportation for over 240 middle school students.
- The team participates at public showcases, such as the LBUSD Science Fair and the El Camino College Onizuka Space Science Day
- Team members mentor students through an organization called PressFriends, which focuses on making writing and learning fun for elementary school students.
- The team started a series of PressFriends workshops called "STEM Comes FIRST" in which students perform science experiments, learn about the team and FIRST, and write articles about the experience.

Sample Sponsorship Presentation Outline:
1. CAMS
   California Academy of Mathematics and Science
   +1000 applicants; 165 openings
   Ranks 2nd in Los Angeles County and 3rd in State
   At least 95 of students go on to four-year-colleges and universities
   National Blue Ribbon Award Recipient
2. The Academy of Tomorrow's Workforce
   Involvement in summer:
   Internships
   > Northrop Grumman
   > Nissan North America
   > Boeing

   Programs
   > COSMOS
   > TMARC
   > MITES
   > CALTECH
   > NASA SHARP
3. What is FIRST? (For Inspiration and Recognition of Science and Technology)
   > Non-profit organization founded by Dean Kamen
   > Worldwide Competition
4. 2012 Season: Rebound Rumble
5. The Nerd Herd
   > Team 687, Involved in FIRST for 12 consecutive years
   > 24% of CAMS population involved
   > Completely student-run operation
   > Most popular club at CAMS
6. Team Structure
7. Learning for the Future
   > Leadership Skills
   > Manage the Club
   > Lead through example
   > Teamwork Skills
   > Participate in activities
   > Develop a learning environment
8. Knowledge for the Future
   > Entrepreneurial skills
   > Money Management
   > Business etiquette
   > Writing letters
   > Contacting corporations

9. 2011-2012 Expenses
10. Levels of Sponsorship

Sample Thank You:

Company Name
First Name Last Name
Title
Street address
City, State Zip Code

Month, day, year

Dear (First Name Last Name) :

Thank you for your kind donation to the CAMS Robotics team. Your generosity is greatly appreciated. With your contribution, the CAMS Robotics team can now (what the donation allows us to do/purchase).

In return for your assistance, (company name) will be advertised on (ex: CAMS Robotics website, depending on level of sponsorship).

Your aid will play a role in our competing potential in the two upcoming FIRST Robotics competitions for the 2012 season. Your company will continue to be updated of our team's progress.
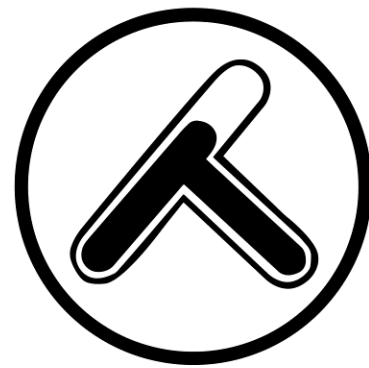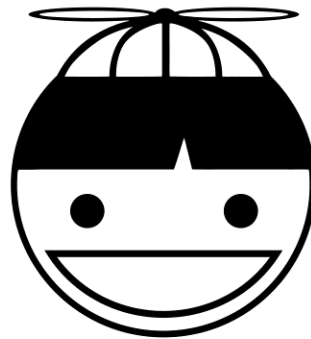
If you have any further questions, please contact:

<div align="center">
Robotics Team Staff Advisor
Ted Harder
310. 234. 2025
</div>

Once again, thank you for your support. We hope to work with you in the future.

Warm regards,

CAMS Robotics Team Chairwoman
Desiree Diaz

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